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ILLUSTRATED

MONTHLY



JANUARY, 1900.

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VICK'S ILLUSTRATED MONTHLY.... MAGAZINE

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JANUARY CONTENTS.

Frontispiece—Colored Plate, *Begonia semperflorens*. illustrations in Black and White.

A Japanese Pleasure Garden, 97; A Garden in Tokio, 98; Mamillaria Cactus from Wyoming, 99; Lakelet on the Grounds at Friar Park, 100; Ampelopsis Cordata, 101; Eschscholtzia caespitosa, 105; Large Flowering Winter Stock "Empress Elizabeth," 105; Phlox Drummondii nana compacta, Surprise, 106; Petunia Rosa Bonheur, 106; Collinsia tinctoria purpurea, 106; Anemone coronaria, single and double-flowered, 107; Tubers of Anemone coronaria, 109; Rose Hedge at Lazy Lawn, 111; Bed of Begonia Vernon, 112; The Baby Primrose, 115; Lima Beans trained to upright wires, 116; The Sterns Apple, 117; The Christmas Rose, 118; Helleborus niger, 119; Abnormal growth of the Cucumber, 120; A Winter Bouquet, 124; Cecropia Cocoon, 125; Ophion, 125.

Editorial and Communications.

Japanese Ornamental Gardening (illustrated) . . . 97
Ampelopsis cordata (illustrated) 101
A Handsome Artificial Lake (illustrated) 102
The Mamillarias of Wyoming (illustrated) 102
Winter Hanging Baskets 103
Asafetida 103
Primula obconica fimbriata 103
From Last Season's Garden Note Book 104
New Plants (illustrated) 105
Garden Anemones (illustrated) 107

Gleanings from Many Fields.

At Lazy Lawn (illustrated) 111
Begonia semperflorens as a Bedding Plant (illustrated) 112

The Scraping of Trees 113
Pears for Profit 114
Young Conifers 114
Pandanus utilis 114
The Baby Primrose (illustrated) 115
Spiraea Antony Waterer 115
Wire for Training Lima Beans (illustrated) . . . 116
Sweet Peas Planted in Fall 116
Symphoricarpos racemosus 116
The Sterns Apple (illustrated) 117
Hemerocallis aurantiaca major 117
Cultivating the Roadsides 117
The Christmas Rose (illustrated) 118
Asparagus Culture 118
Phrynum variegatum 120
Structure of the Cucumber (illustrated) 120
The Leopard Plant 120
Ampelopsis Veitchii 120

Bud, Bloom and Seed Pod 121-122

Nature Studies for Young People.

Palaces (illustrated) 123
Hot Shot 125
Vick's Volunteers 126


Letter Box 127

Plant for Name; Trumpet Creeper; Seedling Aquilegia; Azalea; Moonvine; Asparagus; Deutzia; Dwelling near Water; Asparagus Sprengeri.


Editor's Notes 128

Electro-Horticulture; Western New York Horticultural Society; Cacti of Wyoming; The New Egg Farm; School of Horticulture; The Florists' Manual.

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BEGONIA SEMPERFLORENS.

VARIETIES ALBA, ROSEA AND VERNON

VICK'S ILLUSTRATED MAGAZINE

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A JAPANESE PLEASURE GARDEN

JAPANESE ORNAMENTAL GARDENING.

THE illustrations here shown of gardens in Tokio, Japan, are introduced in order to present to the readers of this journal some features of Japanese landscape or ornamental gardening in the natural style. The pictorial representation of the subject with only two scenes is necessarily very imperfect, for many features of the gardening of that country fail to be shown here and in fact a numerous array of photographic illustrations would be necessary to convey an adequate conception of the principles of Japanese gardening art or

the results attained in their application. But in these illustrations may be observed some peculiar characteristics of gardening in the eastern island empire.

In each case it may be noticed that the chosen site consists of irregular or broken hilly ground, and in both there is running water, which by damming has been converted into little waterfalls or cascades, but their appearance is very natural and in entire harmony with the scene. In the first illustration the old trees have all the appearance of spon-

taneous growth, as if the site had been selected and improved after these trees had grown, and perhaps this was the case; if so, it shows appreciation of nature's disposition and grouping of the trees; or if the garden is an old one and the trees were planted there, then we can but admire still more the art which could have placed them as they stand. The steps that have been constructed in the pathways down the declivities are necessary, since in a region of great rainfall like that of Japan, pathways of earth down the hillsides would soon be cut into gullies by the water of the frequent showers and rains.

nature's dictates that the results are admirable.

But the simplicity of detail in these gardens compared with the best and most natural effects as exhibited in occidental gardening is very noticeable, and one can enquire what are the differences in the guiding thoughts that should produce so dissimilar results and, also, which style of gardening is preferable, or are there habits of thought of the different peoples that make the different styles most acceptable, respectively, to each?

In some articles on Japanese gardening, by M. G. Van Rensselaer, which appeared in the



A GARDEN IN TOKIO

Evidences of artificial planting of trees and shrubs are more observable in the second of these illustrations than in the first. In this picture may also be noticed some architectural constructions which to our minds convey the idea of bird houses more than anything else. In neither of these scenes is there, apparently, any incongruity; the arrangement of the rocks, the flow of water and the vegetation all appear in harmony with the land conformations, and a sense or spirit of unity seems to prevail throughout, and it must be admitted that art has here so closely followed

Garden and Forest, the principles of Japanese gardening are to some extent elucidated, based on accounts written by Mr. J. Conder, and published in the *Transactions of the Asiatic Society of Japan*. This writer says:

Constructing only with the materials native to the country, the designer is able to follow consistently the arrangements suggested by nature, the landscapes he seeks to reproduce being in all cases identical with the natural types that are familiar to him.

It is usual to divide garden compositions into three styles expressive of their general character. * * * The finished or labored style, intermediate, and free or bold style. In practice these styles are not sharply divided, but a garden, according to its rough or elaborated character, may be generally classed under one of the three heads,

* * * and it is an important law that whatever character is decided upon should be consistently followed throughout. The gardens here illustrated evidently belong to the free or bold style, and the consistency of execution is conspicuous.

Again the same author says:

Before proceeding to execute a landscape-garden, a careful survey of the site and its surroundings is necessary. If it be a bare and level area, the designer is free to arrange his composition in any way that he may please according to its size, bearing in mind the locality and surroundings, and the character of garden suited to the particular proprietor. But if it be a sight possessing natural facilities, such as fine trees in prominent positions, hillocks, a stream, or even a natural cascade, the artist will consider how such natural features can be utilized and worked into his design. * * * A neighboring view

hills, rocks and plants in such a way that the idea of water may be suggested. Sometimes a stretch of bare, beaten brown earth or of well-raked sand will indicate a lake or sea, and a meandering, pebbly bed a river, the surrounding rocks, plants and piles further assisting the delusion. The arrangement is more than an artistic disposition of trees, flowers, shrubs and stones. It is a real picture composition intended to represent some imaginary landscape. Thus, it will be seen that Japanese gardening, as expressed in its best forms, appeals to the imagination.

In commenting on Mr. Conder's statements, the writer of the article referred to says: "Whether we try in our garden arrangements to be formal and architectural, or natural and free, we demand that the desired effect shall



MAMILLARIA CACTUS
FROM WYOMING

may be cleverly taken advantage of, and the garden so arranged as to harmonize with it, the distant landscape when seen from the rooms of the house actually appearing to form part of the whole composition. * * * A garden is, above all, a place for summer enjoyment, * * * and must, therefore, by all means, look cool and refreshing; but such coolness is not produced by planting trees too densely and crowding the area with many objects. A few masses of foliage, judiciously arranged in the background, may be made to impart a fresh and cool effect. The presence or suggestion of water is necessary; but it must be remembered that clean, shallow and running water looks much cooler than deep, stagnant or weed-covered pools. The total absence of litter and untidiness, added to the presence of water, produces the most refreshing effect. * * * It often happens that water cannot be obtained; and if the character of the scene to be represented requires it, it is not unusual to arrange the

be actually, practically, materially obtained, that the things we see shall be literally themselves, and depend not at all for their significance upon the imaginative faculties of the observer. The Japanese, on the other hand, never desires anything but a strictly natural effect; but he is content that it shall be suggested rather than displayed. The elements before him are valued less for themselves than for their power to act upon his imagination and recall the forms of beauty which they testify rather than reproduce. We demand in a natural garden that it shall be a beautiful



See page 102

LAKELET ON THE GROUNDS AT FRIAR PARK,
HENLEY, YORKSHIRE, ENGLAND.

passage of scenery. His garden is to him less a landscape, properly so-called, than a picture of a landscape; and he does not see anything more unnatural in a small picture composed of piles of earth, rocks and shrubs representing mountains, trees and lakes, than we see in a small painting on canvass when it represents similar objects." From the statements here made and the deductions therefrom, it may also be concluded that in the Japanese mind the garden ideal is presented most prominently in its entirety, while to us it appeals more strongly in its details; in the case of the former it excites the imaginative faculties, and of the latter the faculties of observation. The gratification may be as much in the one case as in the other; but with the higher training of the senses which western peoples receive, and the still higher standard demanded in modern educational curricula,

it is improbable that Japanese ideas of gardening will influence to any great degree, if at all, our practices; on the contrary, by the adoption by the Japanese of western modes of thought and education it is probable that, in the course of time, the principles of landscape gardening, as understood and practised by our best designers, will greatly modify the art as it is at present in Japan. But it would be well that our own garden designers should notice the ideas of unity and picturesqueness which so strongly characterize the best examples of Japanese natural gardening, and consider with renewed attention their prominence as guiding principles; principles which we certainly recognize in our practice, but when we see them so strongly displayed in a system that has developed independently of our own we may be assured of their secure foundation in nature itself. C. W. S.



A new hardy climber

AMPELOPSIS CORDATA

AMPELOPSIS CORDATA.

TO those who are undecided as to what vine to plant at their veranda or porch I would like to suggest the *Ampelopsis cordata*, (*vitis indivisa*.) We have tested this vine at our front porch, facing the north, for the past six years, and have found it remarkably satisfactory. It makes a very vigorous growth during a season, the foliage is bright green,

and the fruit, although not very abundant, is quite ornamental; it is a trifle larger than that of *Ampelopsis quinquefolia*, and from a bright green it changes to varying shades of purplish pink or pinkish blue. When the different colors are all found on one of the loose panicles the fruit is very pretty, hanging among the graceful foliage. The vine branches very

profusely, and these branches make an extremely graceful drapery, forming beautiful festoons over an entrance, or about the posts or pillars of a veranda.

Our own vine we found growing wild in Kansas. Its native beauty was its only recommendation—but it has responded to transplanting and cultivation remarkably well. One other thing in its favor, is, that it resisted the frosts which stripped the leaves from the *Ampelopsis quinquefolia*, and was bright and green a month later. So far, no insect pests have disturbed it, and even if one wishes to retain all the old favorites, it is pleasant to vary the monotony by the addition of something new. *A. cordata* may be readily propagated from cuttings.

The illustration on page 101 shows the vine, but to appreciate it thoroughly, one should see it on a hot, sultry, summer day, when, even to look at it seems to lower the temperature. MRS. W. A. KELLERMAN.

* *

A HANDSOME ARTIFICIAL LAKE.

THE engraving of the water-scene on page 100 is introduced merely to illustrate the skilfulness with which a piece of ground has been worked to form a pond, or "lake" as it is termed at the place itself. The naturalness of its appearance will appeal to everyone, as will also the tree arrangement both of which form an exhibit of clever gardening. The illustration has been prepared from one, which with others, appeared a few months since in the *Gardeners' Chronicle*, in connection with a description of Friar Park, Henley, the residence of Frank Crisp, Esq., Oxfordshire, England. The writer mentions the lake as "a pretty piece of water, containing an island that adds very considerably to the charms of the scene. The outlines of island and lake are very informal, and the planting that has been done accentuates the point of beauty. * * * To-day the lake is a conspicuous and effective feature of the gardens, and it takes one by surprise to be told that it is quite of artificial make, and that upon the same site was once a private residence." The whole scene while entirely artificial, is an excellent example of what is meant, and what is generally understood by gardeners, as the "natural style" of landscape gardening,—the water and land formation and the disposition of trees and shrubs as if of Nature's own handiwork.

THE MAMILLARIAS OF WYOMING.

MAMILLARIA vivipara is a hardy little child of the desert and is not surpassed in beauty of flower by any other species of the genus. Even when not in bloom the plant is attractive.

It is round in shape, often nearly a perfect sphere. Sometimes two or more heads or globes spring from the same root—sometimes they stand singly. The engraving shows a number of plants piled together. The mass in the background is a plant with five or six heads or globes—in a word it is what botanists call cespitose. The center spines are a reddish brown and these are surrounded by gray ones; the flowers are a glowing purplish crimson. The fruit is oval, of a green color, and the seeds are brown and pitted. Sometimes the flowers are pink in color.

The following is a portion of the description of the plant given in *Coulter's Manual*:

Simple or cespitose; the almost terete tubercles bearing bundles of five to eight red, dark-brown spines surrounded by fifteen to twenty gray ones in a single series, all straight and very rigid; flowers purple with lance-subulate petals and fringed sepals; berry oval, green; seed pitted, light brown.

The exposed surface of the plant is composed of numerous cone shaped segments, about one-half inch in length and standing close together. These are each tipped with a bunch of spines, arranged both perpendicularly and horizontally, of varying shades of red, green and gray. Some specimens have a mixture of red and green spines, some of which are tipped with gray or black. Others are very densely covered with short, very fine, almost thread-like, needles of a gray tint, the whole plant having a rather venerable appearance of gray-headed old age.

Springing from the top of the plant are the flowers, from one to a dozen in number though it is seldom that more than two or three are open at once.

Two colors are represented in the mamillarias of Wyoming—red and yellow. But these colors vary greatly in shade and there is also quite a variation in the texture of the petals. The reds are deep brilliant crimson, light rosy crimson, light and deep pink, and the petals of some flowers are very waxy in texture, others satiny. I remember seeing a specimen which was a delicate blush, the satin-like petals thin as tissue paper, glowing with a silvery sheen which a La France rose might envy but never equal.

The common yellow-flowered species always

grows singly, one globe only from each root-stock. This is *Mamillaria Missouriensis*, having ten to twenty weak, ash-colored spines on each tubercle; fruit or berry scarlet, nearly globular in shape; seed blackish, round and pitted.

The flowers of *M. Missouriensis* are smaller and more delicate of texture than those of the red-flowered species, and vary from a deep-golden color through greenish yellow lake to a rich straw tint.

The flowers of both species are more or less double, with yellow stamens and creamy white pistils. The reds are especially beautiful and the color of the petals and that of the pistils make a rare combination. The *mamillarias* bloom earlier than the *opuntias*, which are the most numerous of the northern species of cactus.

There is a variety of the yellow-flowered species which is not very common, and is known as *M. Missouriensis cæspitosa*, so-called because it frequently bears two or more globes or stems from one root. In this variety the spines are white; berry shorter than the tubercles, and red in color; flowers yellow.

None of the *mamillarias* produce flowers from the spine-bearing areolæ, but they are borne on stem-like tubercles of their own.

The photograph from which the engraving on page 99 was made was a faithful likeness of some average specimens collected on the North Platte River in Central Wyoming about June 5, 1899.

Carbon, Wyoming.

S. L.

* *

WINTER HANGING BASKETS.

One of the trials of the lover of house plants, is to find some morning that the thermometer fell to an unexpected, low degree during the night and that her plants were more or less injured by the unbearable cold. It may be of interest to such a one to know that the little vine *Cymbalaria cymbalaria* (*Linaria cymbalaria*) or Kenilworth Ivy, is a wonderfully hardy little plant, though it has a delicate tender appearance.

Some three or four years ago I had several baskets filled with various plants, among which was a generous proportion of this *cymbalaria*. What was my surprise a few weeks ago to find that this plant had escaped from my hanging baskets (and from cultivation) and had introduced itself on the little strip of lawn at the base of the lattice along the front porch!

Here it is nearly Thanksgiving, and the little vine is growing and blooming as vigorously and profusely as though it had been carefully planted and cared for. The severe white frosts which have rendered our vines and trees barren of leaves weeks, and some of them months ago, have made no impression on it. Hence for a winter hanging basket, I think *cymbalaria* would be an admirable vine. One should refrain from planting a tender begonia in the center of the basket, however, as is so generally done. The common ground ivy, or Gill-over-the-ground, is pretty for winter boxes or baskets and is also quite hardy.

I like to see the beautiful begonias and other plants which must have just the proper degree of warmth, but where one cannot control the temperature it is best to give space to the hardier kinds only, and among these there is ample variety to choose from.

MRS. W. A. KELLERMAN.

* *

ASAFETIDA.

The plant yielding *asafetida* or "fetta" as the people hereabout call it, is a great umbellifer (parsnip family) the *Narthex Asa-fœtida* native to the country east of the Caspian sea. Its manner of growth is the same as that of the parsnip; first a tuft of leaves on the earth then a tall flower stalk the second year, the plant being dead when the seeds are ripe. The root may weigh thirty pounds, and the stem is fifteen or more feet high. At the proper season the leaves are twisted off and earth piled over the root. Then a month afterward, the dirt is cleared away and the top of the root is cut off with a sharp knife and a milky juice flows at once, darkening and hardening on exposure to the air. After a day or two the milk ceases to run; then a fresh slice is cut off and it starts again, and so on till the root is completely exhausted. We use the drug only for medicine, but the Asiatics use it to season their food, cultivating it for this purpose. Whether it is more or less potent when fresh I do not know. As we see it, it may have lost its strength somewhat; or its awful smell and taste may develop with age.

E. S. GILBERT.

* *

PRIMULA OBCONICA FIMBRIATA is an improvement on *P. obconica*. The blossoms are in all shades of color, from white to deep pink. The plants are strong growers and constant bloomers, and have no poisonous glandular hairs.

FROM LAST SEASON'S GARDEN NOTE-BOOK.

THE Rudbeckia, Golden Glow, came through the severest winter on record, in this part of the country, at least, without the loss of a leaf. It is as hardy among border-plants as the lilac is among shrubs. All through September it was a solid mass of color. One clump of it is enough for a small garden. If you have more of it, its color dominates everything. In the small garden it is most effective in the background. Plant it, if possible, among shrubbery. It is too tall and strong a grower for positions near the house. Some of my plants were eight feet tall, and sent up more than a hundred stalks. For cutting it is excellent. The flowers last a long time. Their long stems make them very useful for vases and bowls. It is almost impossible to arrange them ungracefully, unless you crowd a great many of them into a small vessel. They combine gloriously—that's the proper word to use here,—with dark scarlet or maroon dahlias. These two flowers used together give an extremely rich and brilliant effect. Judging by the way my plants spread, each season, they will have to be cut out from time to time to keep them within bounds. But it will not be necessary to throw any of the root away, as every one who sees the plant in bloom is sure to want a bit of it.

* *

I get a great many letters every year from persons who complain that their lilies of the valley fail to bloom. The plants grow well each season, and spread until the bed is filled with them, but they get no blossoms. The same complaint is made about the narcissus. Because the lily of the valley is so hardy, we seldom give it much protection. I am inclined to think this is why so many fail with it. If a good covering of leaves or litter were given it in fall, I believe the plant would come through in a condition to do good work. I think the trouble comes from heaving of the soil, caused by the action of frost. This heaving takes place generally near the surface, where the

crown of the lily of the valley is to be found, and the roots below it are broken or torn apart to a degree sufficient to injure the plant, and prevent spring flowering. I notice that portions of the beds covered by leaves produce flowers, while exposed portions have none. This leads me to think that the lily of the valley needs a sufficient amount of covering to keep the frost in the ground, when it has obtained an entrance there, by preventing the sun from penetrating to the soil where the roots are. Freezing the roots of a plant does but little damage to it. It's the alternation of freezing and thawing that does the mischief. We cannot keep the frost out, but we can keep it in, by covering, and that's what constitutes protection of the right kind.

* *

I have been greatly pleased to note, at the flower shows, a tendency toward a more rational manner of growing chrysanthemums. Perhaps I ought to have said a more *natural* manner, for very many of the plants exhibited had been allowed to develop a great many flowers. True, these were not large, but they were quite large enough to be beautiful, and seemed much more like a flower than the monstrosities heretofore seen in the majority at our fall shows. As a curiosity, a chrysanthemum eight or ten inches across is worth looking at, but no one would care to have such flowers for every-day use. They do not seem to be flowers to me, simply floral freaks. A specimen plant two or three feet tall, with a dozen or more branches, making it a little shrub, and every branch laden with flowers three or four inches across, is a thing of beauty for parlor or greenhouse. One such plant is worth more, for real enjoyment, than a hundred single-stem plants bearing a flower the size of a dinner plate. If we are going to cultivate taste among flower-growers the sooner these burlesques on blossoms are done away with the better it will be for the good work.

EBEN E. REXFORD.



NEW PLANTS.

A CONSIDERABLE number of new varieties of flowering plants are announced by European seedsmen, and among them some good things may be expected. The enterpris-



ESCHSCHOLTZIA CÆSPITOSA.

ing seedsmen of this country will, no doubt, offer the seeds of these new varieties in their forthcoming catalogues.

Full descriptions of these novelties cannot now be given, but the offerings of some of the prominent European firms are here mentioned, and brief descriptions of some kinds and a few illustrations are presented.

Haage & Schmidt of Erfurt, offer

Calendula officinalis fl. pl. "Favorite." A pretty counterpart to the well-known "Meteor." Flowers light sulphur striped with creamy white.

Dianthus laciniatus salmoneus, fl. pl. Double-flowered pink "Salmon Queen."

Eschscholtzia cæspitosa. Very dwarf, small-flowered species only five to six inches in height, similar in growth to *E. tenuifolia*, but differing essentially by its much earlier blooming and the golden yellow color of the flowers. The latter are from three-quarters of an inch to one inch across, and are produced on short erect stems, standing free out of the fine glaucous foliage,

Linaria alpina rosea.

Lychnis alpina alba. Tufts only two to three inches in height, Very useful for the rock garden.

Papaver nudicaule striatum.

Petunia hyb. *grandiflora fimbrita* fl. pl. *amabilis*.

Senecio elegans fl. pl. *pomponicus*.

Tagetes signata pumila sulphurea.

Tropaeolum Lobbianum "Princesse Victoria Louise."

Verbena Aubletia candidissima. Flowers pure white, produced even in wet seasons, and especially valuable on this account.

Ernst Benary of Erfurt has a list of promising novelties, as follows:

Antirrhinum majus "Romeo."

Dwarf Comet Aster, "Bridesmaid."

Dwarf Mignon Aster, crimson, carmine, rosy carmine.

Lady Aster, comet flowered.

Helianthus cucumerifolius hyb. fl. pl.

Cineraria hybrida grandiflora, "Fin de Siecle."

Collinsia tinctoria purpurea. Of this novelty the raiser says: "*C. tinctoria*, a pale red flowering Californian species, though interesting only to the botanist, is remarkable for a flower surpassing in size all other collinsias and

I have succeeded in obtaining a fine garden variety from it. The flowers are of a deep red violet, the upper lip being delicately pointed with white and appear in whorls, one above another, around the main stem. Can be recommended especially for beds and borders."

Dianthus Heddewiggii, *diadematus albus* fl. pl.

Heuchera sanguinea hybrida.

Large Flowering Winter Stock, "Empress Elizabeth." This splendid stock, says Mr. Benary, which has excited the just admiration of all visitors to my establishment this year, grows about 18 inches high. The plant throws up a very strong main stem, similar to that of a tree wall-flower, and branches out in candelabra form. Both main and side stems are covered with large, rose-shaped flowers of the brightest imaginable tint of carmine rose, the same resplendent color as the dwarf winter stock "Sunrise" which I introduced in 1895. The whole plant forms a grand pyramidal-shaped bouquet, the effect of which is enhanced by the bright green foliage which is a feature of this variety. It comes in early, stands unfavorable weather well and produces about 70 per cent. of double flowers. It is not only an excellent plant for pots and groups but also a cut flower of the very first rank.

Papaver lævigatum compactum.

Phlox Drummondii nana compacta "Surprise." The flowers are covered with brilliant vermillion red flowers, the centre of which is adorned with a pure white star. This color is extremely taking, arresting the eye of the beholder at first sight, and renders this variety wonderfully effective for groups and edgings.



LARGE FLOWERING WINTER STOCK
"EMPRESS ELIZABETH."

Petunia Double Lilliput "Rosa Bonheur." The first self color in the new dwarf compact Lilliput class, the flowers being of a most beautiful shade of pure rose. Said to be very free blooming and 50 per cent. of the plants come true from seed.

Petunia hyb. grandiflora purpurea albo maculata.

Giant double petunias.

Yellow throated fringed petunias.

Mammoth verbena, dark colored shades.

Mammoth verbena, rose and carmine shades.

Mammoth verbena "Firefly." Shining red flowers with large pure white eye. Extraordinarily free flowering.

Saintpaulia ionantha grandiflora violacea.

Tagetes patula nana striata.



PHLOX DRUMMONDI NANA COMPACTA, SURPRISE.

Herb & Wulle, of Naples, Italy, offer the "Sweet Sultan," Centaurea "Imperialis," in a variety of distinct colors. The introducers say:

Our Centaurea "Imperialis" is doubtless the best "Sweet Sultan" for cut flower purposes, and will make superfluous in the course of time all other species of centaurea. As a result of a cross between the red *C. moschata* and *C. Margaritæ*, it took from the latter the same beautiful sweet-scented and noble-shaped flowers; these have become, however, much larger. Also the growth of the plant is much stronger and much more resistant than the more delicate *C. odorata*, *Margaritæ* and *Chamælon*, which often die after a short life in the midst of their best bloom. The colors of the flowers are pure white, lilac,



PETUNIA, ROSA BONHEUR.

rose, purple, dark red, and other similar tints. The flowers are supported by strong stalks and have an extremely long duration. One of the nicest of annuals, easy to cultivate, flowers continually from spring to autumn. They quote the following notice from the "Florist's Exchange," of August, 1899, referring to novelties: "The premier place must be assigned to centaurea "Imperialis," which is one of the most important introductions of the present decade. The plant is very vigorous, growing nearly four feet high, easy to grow, and literally covered with flowers fully double the size of *C. Margaritæ*, with the same odor and the same form. The stems are long enough to satisfy the most exacting 'Belle of New York.'"

The Carters, of London, James Carter, Dunnett and Beale, make some offerings that appear as if they might be quite valuable. Among them are the following:



COLLINSIA TINCTORIA
PURPUREA.

Carter's Crested Crimson Aster. A new aster of distinct appearance. In habit it partakes of the Peony Perfection class. The flowers are large, with long flated and quilled petals, which are split and opened out at their ends showing white segregated tips, so that the flowers have the appearance of carrying a crest.

Linaria, Royal Purple "Garden Heather." A dwarf annual, of bushy growth, one foot in height. Introduced as the nearest approach in general effect to Purple Heather.

Candytuft, "Green Hyacinth Flowered." An improvement on "Empress," with enormous spikes of bloom. These measure as much 7 inches in length, 7 inches in circumference, with 120 to 140 florets on a spike.

Candytuft, "Little Prince." A dwarf, compact form of the beautiful "Empress." Though only half the height of the parent, say 4 to 6 inches, it forms massive spikes of large pure white flowers. When planted in masses it produces a splendid snow white effect; for groups, borders and pots this will be of grand service.

Candytuft New Rose Cardinal, A striking and rich color, quite distinct, deep rosy cardinal, a great advance on the carmine already well known.

Dianthus, "Queen of Holland"—(White). This variety has been produced by fertilizing Dianthus, "The Bride," with pollen from Carnation "Germania." The plants are very floriferous, bearing very large even edged flowers of a lustrous pure white.

Matricaria corymbosa fl. pl., "Snowball." This is a fitting companion to the recent introduction "Golden Ball," and will gain popular favor as rapidly. About 8 to 10 inches high, the plants are well adapted for bedding and borders, and can be grouped with lobelias and other plants with a beautiful effect. Although of compact habit it is very floriferous.

Godetia Whitneyi, Dwarf, Blood Red. A new color in godetias. It is most floriferous, and its large flowers are of an intensity of color most remarkable. Its dwarf habit makes it valuable for baskets and plants.

Godetia, Compacta, "Duke of York." This new variety is of a dwarf, stout and regular branching habit similar to that popular variety "Lady Satin Rose," but the flowers are of a bright scarlet carmine color.

GARDEN ANEMONES.*

THIS genus of hardy perennial plants is one of the largest in the family of Ranunculaceæ when considered from the number of beautiful forms which it furnishes to American gardens. Besides the twenty-two species native of North America, all of which are well

worthy of cultivation, there are a great many forms from Europe and Asia which we are using. The whole genus includes about eighty species with many handsome garden varieties. A few of the species are found wild in the south temperate zone in South America and Africa, and the largest plant of the genus, *A. Fanini*, is from the Cape of Good Hope. A few others are at home beyond the Arctic circle.

The stems are usually erect, with great variation in height. Basal leaves lobed, divided or dissected, those of the stem forming an involucre near to, or remote from the flower. Sepals few or many, petal-like, no true petals. Stamens many, shorter than the sepals.

Carpels numerous; fruit of all in form of 1-seeded akenes.

The plants thrive best in a fresh, rather rich sandy loam, well drained; but most of the species will do well in any good garden soil. The tuberous species are suitable for borders, while most of the others would prefer a place in a rockery, and some are partial to shady places. The key to proper planting of any species is found by studying the natural habitat of the plant. Plants of the species *hortensis*, *coronaria*, *fulgens* and others will well repay the little indoor or greenhouse care they will require for producing winter blossoms. Bulbs of *coronaria* placed in pots, with good soil in September or October bring forth a beautiful show of bloom by January or March. For this purpose they should be well drained and not kept very wet nor too warm before the growth is well started; they prefer more moisture at flowering time. The single varieties of *A. coronaria* are the best and come to blossom quickest. Bulbs started

in December will show fine flowers in March. Nearly all the species can be readily propagated by root division and seed. The season of both outdoor and indoor planting will directly influence the flowering season. Good seasons for outdoor planting are September, October, November, February and March. As a rule, the anemones will blossom at any time desired, being influenced by the length of time they are kept out of the ground. The bulbs may be ripened after flowering time by being taken from the ground to dry, or by covering over the beds to keep out rains.

Anemones are coming into use for cut-flower purposes. The blossoms of *Japonica*, *coronaria*, *hortensis* and *fulgens* are the best of the genus for this purpose.

The genus *Anemone* has been variously treated by different authors since the time of Linæus; in fact that old botanist was in doubt whether *Pulsatilla* and *Hepatica* should be included or not. Dr. Watson and many others have finally decided to include the *Pulsatilla* section but to consider *Hepatica* as a separate genus. G. A. Pritzel's "Revision of the *Anemone*" in *Linnaea* 15:450, 1841, is the latest complete revision of the genus; but in 1891 Dr. Britton wrote up the species native of North and South America in the *Annals of the New York Academy of Science* 6:217.

In the following treatment I have in each case given the true name and the synonyms by which the plant is sometimes called. After each description I have given a reference to the best pictures of the plant that have been printed in horticultural and botanical journals.



ANEMONE CORONARIA.
single-flowered ($\frac{1}{4}$ size)



ANEMONE CORONARIA
double-flowered ($\frac{1}{4}$ size)

*The cuts which accompany this article are from pen-drawings made to illustrate the article on the same subject in the *Cyclopædia of American Horticulture*. This great work is being edited by Prof. L. H. Bailey, of Cornell, and the first volume is promised very soon. The publishers, The Macmillan Company, have kindly allowed us to make electrotypes of these cuts to use in this issue.

For convenience these abbreviations are used: B. M., for *Botanical Magazine*; Gn., *Garden of London*; A. G., *American Garden*; Gng., *Gardening*; B. R., *Botanical Register*; R. H., *Revue Horticole*; F. S., *Flore des Serres*; J. H., *Journal of Horticulture*; L. B. C., *Loddiges' Botanical Cabinet*.

KEY TO SPECIES OF ANEMONE.

- A. Akenes with long styles, which may become feather-like on ripening; flowers solitary.
 - Pulsatilla* section.
 - B. Involucre bell-shaped, dissected into numerous, linear, equal lobes
 - vernalis*, *Halleri*, *patens*, *Pulsatilla*, *pratensis*.
 - BB. Involucral leaves three, on short petioles, sheathing the stem.
 - occidentalis*, *alpina*.
 - AA. Akenes woolly or smoothish, with short styles.—ANEMONE PROPER.
 - B. Involucre mostly three leaved; 1 (rarely 2) peduncles.
 - C. Akenes woolly, head of fruit somewhat cylindrical.
 - D. Roots tuberous.
 - E. Sepals never yellow.
 - F. Involucre sessile.
 - coronaria*, *fulgens*, *hortensis*, *Caroliniana*.
 - FF. Involucre short petioled.
 - decapetala*, *sphenophylla*.
 - EE. Sepals yellow.
 - palmata*.
 - DD. Rootstock creeping; leaves of involucre petioled.
 - sylvestris*.
 - CC. Akenes silky-pubescent, (rarely woolly); head of fruit hemispherical.
 - D. Roots tuberous.
 - apennina*, *blanda*.
 - DD. Rootstock slender, creeping, cylindrical.
 - E. Stems tufted.
 - Drummondi*, *Tetonensis*.
 - EE. Stems not tufted.
 - F. Leaves of involucre sessile or nearly so.
 - parviflora*, *deltoidea*.
 - FF. Leaves of involucre distinctly petioled.
 - nemorosa*, *trifolia*, *quinquefolia*, *Lyallii*.
 - DDD. Rootstock horizontal; fleshy or somewhat tuberous.
 - Grayi*, *ranunculoides*.
 - CCC. Akenes nearly smooth; head of fruit a flattened sphere.
 - Richardsonii*.
 - BB. Peduncles 2 to 6 (mostly 3.)
 - C. Akenes woolly or very silky; secondary involucre usually present.
 - Virginiana*, *riparia*, *Japonica*, *multifida*.
 - CC. Akenes slightly silky, pubescent, or glabrous; secondary involucre usually wanting or the lateral peduncles bracted near base.
 - D. Fruit in a globose head.
 - Fannini*, *Mexicana*, *Hemsleyi*.
 - DD. Head of fruit cylindric.
 - cylindrica*.
 - CCC. Akenes smooth at first; flowers white, somewhat umbellate, or plant dichotomously branched.
 - Canadensis*, *dichotoma*, *narcissiflora*, *polyanthes*.

SPECIES AND VARIETIES.

- A—AKENES WITH LONG STYLES, WHICH MAY BECOME FEATHER-LIKE ON RIPENING; FLOWERS SOLITARY. *PULSATILLA* SECTION.
- B—INVOLUCRE BELL-SHAPED, DISSECTED INTO NUMEROUS LINEAR EQUAL LOBES.
- ANEMONE VERNALIS, L. Sp. Pl. 538, 1753. (*Pulsatilla vernalis*, Mill. *A. sulphurea*, All. *A. alborosea*, Gilib. *A. Halleri*, Schult-Oestr.) Very shaggy, six inches high or less; leaves pinnately parted, segments trifid; flowers purple without, whitish within and smoothish, erect on very short peduncles;

sepals 6, rarely spreading. April. Cool, moist places. N. Europe and mts. of S. Europe. J. H. III: 32: 223. Gn. 25: 436. Introduced 1896.

A. HALLERI, All. Fl. Ped. 2: 170 t. 80, f. 2. 1783. (*A. hybrida*, Miq. *A. Hackelii*, Steud. *A. patens*, Hoppe. *A. pinnatifida*, Dulac. *A. glacialis*, Clairv.) Stem simple, villous, six inches or less in height; leaves pinnately divided, with the segments 3-4-parted, the lesser divisions lanceolate-linear; involucre of long, narrow segments, sessile; flowers large, erect, whitish-purple; sepals 6; anthers yellow. March to April. Sunny places. Switzerland. Introduced 1889. L. B. C. 940.

A. PATENS, L. Sp. Pl. 538. (*Pulsatilla patens*, Mill. *A. longipetala*, Schleich. *A. intermedia*, G. Don. *A. flavescens*, Zucc.) Much like the first variety below, which is more common in America, but differs in its broader and shorter leaf-segments, and smaller flowers. Europe, Siberia.

A. PATENS var. NUTTALLIANA, Gray Man. 5 ed. 36, 1867. AMERICAN PASQUE FLOWER, WILD PATENS. (*Pulsatilla hirsutissima*, Britton. *A. patens*, Hook. Not *L. Clematis hirsutissima*, Pursh. *P. Nuttalliana*, Spreng. *A. patens*, var. *hirsutissima*, Hitch. *A. Nuttallii*, Nutt. *A. Ludoviciana*, Nutt. *P. patens*, var. *Wolfgangiana*, Regel. *A. Nuttalliana*, DC.) Villous, with long, silky hairs, four to nine inches high; radical leaves petioled, others sessile, all much divided into narrow, linear, acute lobes; flowers appearing before the root-leaves, are bluish-purple or whitish, erect, seldom nodding; akenes silky, styles plumose, becoming two inches long; peduncle elongates several inches after flowering. April. Low grounds. North Central United States and Siberia. Introduced before 1891.

A. P. var. OCHROLEUCA, DC. Prod. 1: 17, 1824. Flowers creamy-white, appearing at the same time as the basal leaves. March-April. J. H. III: 30; 343. B. M. 1994.

A. PULSATILLA, L. Sp. Pl. 539. PASQUE FLOWER OF EUROPE. (*Pulsatilla vulgaris*, Mill. *A. sylvestris*, Vill. *A. collina*, Salisb. *A. punica* and *A. pisciensis*, Sism. *A. pratensis*, Sibth. *A. intermedia*, Schultz. *A. acutiloba*, Schl.) Villous hairy; nine to twelve inches high; basal leaves finely thrice-pinnately divided or cut, on slender petioles; involucre sessile, deeply cut into long, narrow lobes; flowers blue to reddish purple, 1½-2½ inches across. April. Well drained soil or stony places. Europe. Gn. 32: 623. L. B. C. 1704.

A. P. var. RUBRA, Lam. Encycl. 1: 163, 1783. Dwarfier; flowers always erect.

A. P. var. VARIEGATA, Hort. Flowers pale, appearing in May.

A. PRATENSIS, L. Sp. Pl. 539. Much like the above. Not yet used in America. Early spring. Europe. L. B. C. 900. Var. OBSOLETA, Sims. Bot. Mag. 1863. Flowers pale. Leaflets terminated with a bristle.

BB—INVOLUCRAL LEAVES THREE, ON SHORT PETIOLES, SHEATHING THE STEM.

A. OCCIDENTALIS, Watson, Proc. Am. Acad. 11: 121, 1876. (*A. alpina*, Hook., not *L. Pulsatilla occidentalis*, Freyn.) Silky-hairy, one-half to one and one-half feet high, simple; leaves 2-parted, the divisions deeply pinnatifid into usually incised linear, acute lobes; involucre short-petioled, basal leaves long-petioled; flowers solitary, white or purple, varying; 1-2 inches across; receptacle conic,

sometimes much elongated; akenes pubescent; plumose styles reflexed; peduncle becoming much elongated after sepals fall. May. Calif. to British Columbia. Introduced 1892.

A. ALPINA, L. Sp. Pl. 539. (*A. acutipetala*, Hort. *A. sulphurea*, L. *A. Burseriana*, Scop. *A. apiifolia*, Scop. *A. myrrhidifolia*, Vill. *A. baldensis*, Lam. *A. flammensis*, Scop. *A. millefoliata*, Bertol. *A. grandiflora*, Hoppe. *A. micrantha*, Hort.) Stem three-quarters to one and one-half feet high, from thick, strong roots; leaves large, finely divided, cut and serrated, smooth or hairy; leaves of involucre similar, not so much dissected as in the above species; flowers few, in an umbel or solitary, 2-3 inches in diameter, creamy-white inside, purple outside, but varying a great deal; anthers yellow; receptacle not elongated as in the last. May-July. Mountain sides. Central Europe. L. B. C. 1617. B. M. 2007 (*var. major*).

A. A. *var. sulphurea*, DC. Flowers a delicate sulphur-yellow, larger, downy beneath, leaves larger. Moist, rich soil. Introduced 1882. Gn. 35:682. DeCandolle (1824) named six other varieties of this.



TUBERS OF ANEMONE CORONARIA.

AA—AKENES WOOLLY OR SMOOTHISH, WITH SHORT STYLES. ANEMONE PROPER.

B—INVOLUCRE MOSTLY THREE LEAVED;
I (RARELY 2) PEDUNCLES.

C—AKENES WOOLLY, HEAD OF FRUIT SOMEWHAT CYLINDRICAL.

D—ROOTS TUBEROUS.

E—SEPAL'S NEVER YELLOW.

F—INVOLUCRE SESSILE.

A. CORONARIA, L. Sp. Pl. 539. POPPY-FLOWERED ANEMONE. (*A. Oenanthe*, Ucria. *A. Monansii*, Hanry. *A. Ventreana*, Hanry. *A. rosea*, Hanry. *A. coronarioides*, Haney. *A. pusilla*, DC. *A. cyanea*, Risso. *A. versicolor*, Jord. *A. praestabilis*, Jord. *A. Rissoana*, Jord. *A. nobilis*, Jord. *A. cooccinea*, Jord. *A. grassensis*, Goaty & Pons. *A. alba*, Goaty & Pons.) One-half to one foot high, from tuberous roots; leaves cut into many fine lobes and lobules; involucre leaves sessile, 3-4 parted, deeply cut; flowers 1½ to 2½ inches across, poppy-like, of many colors and shades of red, blue, and white; stamens blue. Early spring to June. Meadows. Mediterranean region. VICK'S MAG. 11:257. B. M. 841. Gn. 50:1073. 16, p. 111. R. H. 1893:232. Some of the trade names given to the single forms are: Caen, Scarlet, The Bride, St. Brigid, Victoria Giant.

A. C. *var. flore-pleno*, Hort. Flowers doubled by the pistils becoming petal-like, the stamens mostly

remaining perfect; many colors, scarlet being the most common at present. F. S. 16:1678.

A. C. *var. chrysanthemifolia*, Hort. A seedling variety produced in 1848, and introduced many years later. Flowers more completely doubled than the above variety, by the stamens all becoming petal-like. A dozen forms, each with its beautiful color, as deep red, sky blue, and even pure white, have been fixed and named. They are very useful as cut flowers. Gn. 30:564. R. H. 887:36.

A. FULGENS, J. Gay Ined. in DC. Prod. 1:18. SCARLET ANEMONE. (*A. hortensis*, Thore. *A. pavonina*, *var. fulgens*, DC. *A. latifolia*, Bell.) One foot high, simple; basal leaves 3-5 lobed with rounded outline, followed later by deeply cut leaves; sessile involucre several inches below the solitary flower; flower vivid scarlet, two inches across, stamens black. May and June. France. Sometimes called a variety of *A. hortensis*, L. to which it is closely allied. Gn. 11:65. Gt. 37:66. R. H. 1877:270. There are several garden forms, as *annata-grandiflora*, *multipetala*, and *Southern Star*.

A. HORTENSIS, L. Sp. Pl. 540. STARRY ANEMONE, BROAD-LEAVED GARDEN ANEMONE. (*A. pavoniana*, Lam. *A. stellata*, Lam. *A. versicolor*, Salisb. *A. sibirica*, Willd. *A. lepida*, Jord. *A. variata*, Jord.) Stem simple, erect, ten inches high; basal leaves cut and lobed irregularly; involucre small, 3-5 lobed, usually 3 or more inches below the flower; flowers red, rosy-purple, or whitish; single; 1½ inches across; stamens brownish violet. Rich, light soil. Southern Europe. May. This differs from *A. coronaria* in its coarse, broad leaves and its elongated, rather narrow pointed sepals. B. M. 123. Garden names are given to several forms which differ only in coloration.

A. CAROLINIANA, Walt. Fl. Car. 157, 1788. (*A. tenella*, Pursh. *A. Hartiana*, Raf. *A. decapetala*, many Am. Authors, not Ard. *A. Walteri*, Pursh.) Stem simple, slender, one and one-half feet high, arising from a large tuber; leaves of involucre sessile, 3 wedge shaped clefts; basal leaves 3-divided and much lobed and parted, slender petioled; solitary flower erect, 1-1½ inches broad, creamy white or purple; sepals often numerous; akenes densely woolly. April-May. Open places, U. S. Introduced 1891 or earlier.

FF—INVOLUCRE SHORT PETIOLED.

A. DECAPETALA, Ard. Animad. Alt. 27, 1763. (*A. trilobata*, Juss. *A. heterophylla*, Nutt. *A. Berlandieri*, Pritz. *A. Caroliniana*, Coulter. *A. Caroliniana*, *var. heterophylla*, Torr. & Gray. *A. decapetala*, *var. heterophylla*, Britt. & Rusby. *A. Chilensis*, Spreng.) Root tuberiform, sending up one (or two) pubescent or glabrate 1-flowered stems, four to twelve inches high; leaves slender petioled, 3-parted, the divisions stalked or sessile, broad, ovate, oval or obovate, crenately toothed or incised; involucre much reduced, 3-parted on short, broad petioles, cleft into nearly linear lobes; sepals 10-20, greenish white to pink or blue, ½ inch long, obtuse; akenes flattened, woolly, styles short-subulate; head of fruit cylindrical, ½ to 1½ inches long. June-Aug. S. E. South America, Mexico, Ala. to Ark. and Tex., and northward. Introduced 1891.

A. SPHENOPHYLLA, Poepp. Frag. Syn. 27, 1833. (*A. decapetala*, Hook. & Arn. *A. bicolor*, Poepp. *A. Chilensis*, Spreng. *A. macrorrhiza*, Domb. *A.*

helleborifolia, Bertero. *A. decapetala* var. *grandiflora*, Eichl.) Root tuberous, stem usually single, glabrate, four to twelve inches high; leaflets cleft into linear lobes, otherwise much like those of *A. decapetala*, flowers like that species but usually two or more from the same involucre, each lateral pedicel with a secondary involucre; akenes densely woolly, styles very short; head of fruit $\frac{1}{2}$ to $1\frac{1}{2}$ inches long, ovoid or cylindrical. July-Sept. N. Chile to Peru, S. Calif. to Ark., Utah. (†)

EE—SEPAL'S YELLOW.

A. PALMATA, L. Sp. Pl. 538. CYCLAMEN-LEAVED ANEMONE. (*A. malvifolia*, L. *A. lobata*, Pers.) Stem six to nine inches high from tuberous root; basal leaves leathery, 3-5 lobed, cordate, toothed; involucral leaves 3-parted; flowers golden yellow, solitary or in twos; sepals 10 or more. May-June. Deep light soil. Mediterranean region. B. R. 3:200. There are three good varieties in the trade; *var. flore-pleno*, Hort., with double yellow or white flowers. *Var. albida*, Sims. (*var. alba*, Hort.) flowers white, basal leaves lobed. B. M. 2079. L. B. C. 175. *var. lutea*, Lodd., like the last but with yellow flowers. L. B. C. 1660.

DD—A CREEPING ROOTSTOCK; LEAVES OF INVOLUCRE PETIOLED.

A. SYLVESTRIS, L. Sp. Pl. 540. SNOWDROP ANEMONE. (*A. hirsuta*, Gilib. *A. ochotensis*, Fisch. *A. pratensis*, Pall. *A. sordida*, Schur.) Stem one and one-half feet high, simple or branched once at involucre; from a creeping rootstock; leaves 3-4 parted, deeply cut at top; hairy beneath; involucre petioled; flowers solitary or in twos, pure white, $1\frac{1}{2}$ inches across, nodding, sweet scented; sepals 6. May-July. Wooded places. Europe and Siberia. B. M. 54. Gn. 18 p. 561. *A. alba*, Juss., is closely allied to this, if not the same. L. B. C. 322. B. M. 2167.

A. S. *var. flore-pleno*, Hort. DOUBLE SNOWDROP ANEMONE. Having large, white, double flowers. G. C. III, 19:739.

CC—AKENES SILKY-PUBESCENT, (RARELY WOOLLY); HEAD OF FRUIT HEMISPHERICAL.

D—ROOTS TUBEROUS.

A. APENNINA, L. Sp. Pl. 541. BLUE STAR ANEMONE. (*A. cærulea*, Lam. *A. pyrenaica*, Pall. *A. pygmaea*, Hort.) Stem simple, slender, four to nine inches high; leaves twice divided and lobed, much toothed; flowers sky blue, $1\frac{1}{2}$ inches across; sepals 10-12, elongated, obtuse; anthers white. March-April. Woods. Italy. This and a form with whitish flowers are both well suited for shady nooks in clumps of shrubbery, etc. Gn. 46:975.

A. A. *var. parvula*, DC. Prod. 1:19. Differs in habitat; foliage sessile, smooth, ovate, and partly cut; sepals only 6-9.

A. BLANDA, Schott & Kotschy, in Oestr. Bot. Wochenbl. 4:129. 1854. WINTER ANEMONE. GRECIAN ANEMONE. (*A. apennina*, E. Auth. ex Boiss. *A. Caucasica*, Willd.) Stem four to six inches high, from a cylindrical rootstock; leaves like *A. apennina*, but harder and smoother and principal divisions sessile; flowers intense sky blue, differing from above species in being larger, more finely rayed, styles black-pointed, and sepals smooth on the outside; opens in earliest spring or mild winter weather. From Taurus mts. of Greece, rocky places. Introduced 1898. Gn. 14:143; 46 p. 152.

DD—ROOTSTOCK SLENDER, CREEPING, CYLINDRICAL.

E—STEMS TUFTED.

A. DRUMMONDII, Watson, Bot. Calif. 2:424, 1880. (*A. Baldensis*, Hook.) Rootstocks slender, woody; stem tufted; plant sparingly pubescent; three to fifteen inches high; radical leaves on long petioles, 3-parted; leaflets deeply 3-5 lobed, the narrow segments 2-3 cleft; involucral leaves similar, nearly sessile; peduncles 1-2; sepals 5-7, pale blue, 4-5 lines long; styles very slender, glabrous, equaling the densely pubescent akenes; head of fruit ovoid, $\frac{1}{3}$ inch long. Mid-summer. Near perpetual snow line on mts., Wash. to S. Calif. (†)

A. TETONENSIS, Porter, ex Britton, Ann. N. Y. Acad. Sci. 6:224, 1892. Nearly related to *A. multifida*, but more slender and not so tall; sparingly pubescent with long whitish hairs; rootstock woody; radical leaves slender petioled, 3-parted; leaflets cleft into linear-oblong lobes; flowers 1 or 2; sepals 5, red, purple or whitish; akenes glabrate, styles short-subulate; head of fruit globose. Summer. Teton Range, Idaho, Altitude 10,000 feet, and Needle Peak of Lost River Mts. (†)

EE—STEM NOT TUFTED.

F—LEAVES OF INVOLUCRE SESSILE OR NEARLY SO.

A. PARVIFLORA, Michx. Fl. Bor. Am. 1:319, 1803. (*A. borealis*, Rich. *A. cuneifolia*, Juss. *A. trilobata*, Pers. *A. cuneata*, Schl. *A. tenella*, Banks. *A. intermedia*, Banks.) Rootstocks slender, horizontal; stems five to ten inches high, simple, 1-flowered; radical leaves long-petioled, 3 parted, divisions sessile, cuneiform, 2-3 lobed and crenately dentate; involucre similar, sessile; sepals usually 5 or 6, oval, obtuse, white, $\frac{1}{2}$ inch long; akenes densely woolly; head of fruit nearly globose. May-June. Quebec and Newfoundland to Arctic ocean, west to Aleutian Islands, south to Minn., and to Colo. In the mts. Siberia. Kamtschatka. (†)

A. DELTOIDEA, Dougl. in Hook. Fl. 1:6, 1830. Stem simple, slender, six to twelve inches high, from a slender rootstock; leaves trifoliate, basal ones petioled, others nearly sessile, coarsely crenated, often incised; flower solitary, white, rather large; akenes densely pubescent, style very short. Pacific slope. Introduced 1891.

FF—LEAVES OF INVOLUCRE DISTINCTLY PETIOLED.

A. NEMEROSA, L. Sp. Pl. 540. (*A. alba*, Gilib. *A. pentaphylla*, Hook. *A. intermedia*, Winkl.) Stem simple, three to eight inches high, nearly smooth; rootstock horizontal, 3-4 times the stem in diameter; leaves of involucre petioled, 3-5 parted; basal leaves appearing after the flower stem, 5-parted, divisions wedge-shaped, toothed; flowers white or purplish, solitary, 1 inch across; akenes pubescent, styles hooked. April-May. Europe and Siberia. Introduced 1891 or before. There are many horticultural varieties. In addition to the three described below, some of the names used in Europe are: *sulphurea*, *biflora*, *parviflora*, *hirsuta*, *semplicata*.

A. N. *var. alba*, Crantz, Stirp. Austr. 2ed. 121, 1769. Flowers larger than the type, pure white, and abundant. Introduced 1883. Gn. 32:618.

A. N. *var. ROBINSONIANA*, Hort. A robust form six to twelve inches high, with broader and thicker leaves and larger flowers which become blue. This is sometimes given as a separate species. March-April. Gn. 32:618; 46, p. 153.

K. C. DAVIS.

To be continued.



AT LAZY LAWN.

We are not lazy at Lazy Lawn at all, but during summer it is a comfortable place to be lazy in; full of nooks and shaded porches, and inviting hammocks.

One of the prettiest points around the place is the rose hedge. It was planted twelve years ago, between the front part of the lot and the back half, and extends from the side porch on the west to the lot next, a distance of sixty

heaped up around the roots. In the spring well rotted manure is again added, and this is all the protection they receive. No rose has ever died, and they receive the full sway of the north wind all winter.

In the spring we don a pair of heavy gloves, and with a small saw, a knife and pruners, we go out and cut out all the old wood. The last year's growth is left, and the new growth which appears is enormous. This work is



ROSE HEDGE AT LAZY LAWN

feet. The hedge measures anywhere from six to ten feet wide and during the entire summer is very beautiful. In June time it is a mass of roses.

In this climate, the common hardy roses had to be used, as any thing which needed wrapping or laying down in the winter was out of the question. Every fall all leaves are allowed to remain around the bushes, and many wheelbarrows of manure and barn litter, are

very severe, for one is bound to become scratched or torn, but it is never neglected any more than trimming the raspberry bushes.

In May, hellebore is dusted on all the bushes early in the morning. I never wait until I see slugs at work, but the poison is given beforehand and heads them off. If the spring is dry the hedge needs watering.

The hedge is on top of a small terrace facing east, and the drainage of course is perfect.

The soil is heavy loam, and as I have stated heavily enriched.

The roses composing this hedge are the old favorites, blush roses, which grow to about five feet; the cinnamon roses, which grow fifteen if allowed to, and I never saw such big roses of this old fashioned rose, as on these bushes; a few of the very prickly but beautiful hardy yellow roses, and a sweet briar. There is also a damask rose among the number, but I have never been able to get a hardy white rose for the hedge.*

If the season is wet, the rose supply is enormous. If dry, the buds are apt to blast and be immature. The picture was taken unfortunately late in the season when the glory of roses was gone. But even without the bloom it is a very lovely arrangement for June's favorites.

GEORGINA G. SMITH.

* *

BEGONIA SEMPERFLORENS AS A BEDDING PLANT.

From the fact that *Begonia semperflorens* and its varieties are but little employed as bedding plants either in private places or in parks or other public grounds, and, also that dealers do not give these plants very great prominence or at least the prominence they deserve, it must be inferred that their capabilities for [the purpose mentioned are not well understood or appreciated. Yet of all the low growing, flowering plants that are used for summer bedding there is none more valuable for the purpose than *B. semperflorens* and its varieties. The low growth of the plants, the handsome foliage, and the showy flowers standing well above it, and freely and continuously produced, all contribute to make this plant an ideal one for bedding. Young plants set in the spring or at the commencement of summer make a rapid growth and soon form well-branched plants that commence to bloom without delay, and continue a fine display throughout the season. The leaves of *B. semperflorens* and its varieties curl in the lobes, more or less, giving them a somewhat hooded form, and the foliage when exposed

to the sun takes on a reddish or reddish-purple, sometimes almost black, shining, metallic hue which gives to a bed of these plants a very handsome appearance. The specimen of vernal, the reddish-flowered variety figured in the colored plate of this month, was sketched from a plant growing in full sunshine in the bed represented on the engraving on this page; the others on the plate were made from plants growing on a little border by the side of the house and almost wholly shaded from the sun, consequently their leaves are green. No plant is able better to bear the summer sun, not even the scarlet geranium which is so universally employed for bedding. The white flowered form is supposed to be the true *B. semperflorens*, while the others are varieties. The plants can be raised by cuttings and from seed. Gardeners usually prefer the seedling plants, as being more vigorous than those from cuttings, and the seedlings come very true. The seed should be sown in January, or not later than the first of February, in the greenhouse. A shallow plant pan, well drained, should be filled with about an inch and a half of light



BED OF BEGONIA VERNAL

soil and the top made smooth and firm, and on this sow the fine seeds as thinly as possible and press down with a smooth block, but do not cover with soil. Place a pane of glass over and set the pan away in a dark corner until the seeds start and then bring to the light. If the soil shows indications of becoming dry set the pan in a dish of water, letting the moisture soak upwards to the surface. The pane of glass should not cover the pan entirely, but a little space should be left for air, and the glass should be turned over every

* Madame Plantier is a handsome white summer rose, very hardy and makes an excellent hedge. *Rosa rugosa alba*, is another hardy white rose that is well adapted to hedge purposes. The flower is single and blooms are produced all through the summer season.—ED.

morning to dry off the moisture on the under side, for there is danger that the little plants may damp off without this precaution. As soon as the plants can be handled, they should be transplanted into a flat or shallow box, placing them about three-quarters of an inch apart. In handling such little plants gardeners use a very small pair of wooden pincers, something in form of a clothes-pin which they make with a pocket knife. With the pincers they take up each plant separately with a little soil and transfer it to its new quarters. As the seedlings grow they should again be transplanted, and this may be done to advantage altogether three or four times, each time allowing the plants more room. If properly cared for, they will be strong and ready to push into rapid growth as soon as planted out, at spring bedding time.

If plants are to be raised from cuttings the old plants should be cut back and a new growth started, and the cuttings be made from the tender new shoots. Cuttings made from the old growth of the plants will not root readily. Young cuttings on a bed of sand will root in two or three weeks. The young plants whether from seeds or cuttings should in spring be placed for a time in a spent hot bed or a cold frame to continue their growth and to properly harden them off for their final planting.

Vernon makes a handsome bed of itself, and the rose colored and white flowered plants will make a fine bed, using the white for the border and the rose color for the center. Other combinations may also be made to advantage.

* * *

THE SCRAPING OF TREES.

Now and then I hear that a man who calls himself "The Cornell Tree Pruner," or something of the kind, is scraping all the outer bark from fruit and shade trees. No person is authorized to use the name of Cornell University to advertise his abilities as a tree pruner or tree doctor.

The question is constantly arising as to whether trees should be scraped of their outer bark. This outer bark is dead tissue, but it may serve as a protection to the tree. The features of this outer bark are also characteristic of the different kinds of trees and contribute no small part to their beauty and interest. I certainly should never scrape the bark from trees which are grown for ornament, unless there were some particular reason for

it. This particular reason might arise when there were a serious incursion of some insect which finds a harbor underneath the bark, or when some species of body-blight attacks a tree and it is necessary to remove the bark in order to get at the difficulty. These are special and comparatively rare cases, however. Certainly the general rule is to leave the bark on all ornamental and shade trees. To take it off does no good, and it robs them of very much of their characteristic beauty.

In case of orchard trees, it is often advisable to take off the hanging bark in order to destroy the harboring places of codlin-moth and other insects. Even in that case, I should not scrape down to the light colored or inner bark, but take off merely the rough, loose exterior. Orchard trees, not being grown for ornament, often present a more kempt and tidy appearance if the old bark is removed. It is to be remembered that the ideals which underlie the care of fruit trees may not obtain with ornamental trees.

I have understood that this itinerant tree pruner asserts that he is able to destroy the pear blight by dusting some material on the trees which he has scraped. It is only necessary to say that little need be expected from such treatment.

It is often asked what one shall do for "moss" on trees. On old and rough bark, moss does no harm, and it often adds a distinct charm to shade and ornamental trees. On young trees or young bark, the moss generally indicates lack of vigor and vitality in the tree. The remedy is to make the tree more vigorous by tillage, enriching the soil, pruning, spraying, and other means. Taking off the moss is little more than the treatment of a symptom; yet the moss should be removed, for in removing it the bark will be made more flexible to allow of the expansion of the trunk, and the tree—if it is a fruit tree—will have a more tidy appearance. The moss may be scraped off lightly. It is also readily killed by a spraying with Bordeaux mixture. I believe that part of the good of spraying lies in the softening of the bark; this was undoubtedly one value of the old practice of scrubbing trees with soap or lye. Stunted trees become hide-bound and cannot swell with new growth. Any treatment which softens the bark will tend to alleviate this condition; but other good treatment must be given at the same time.

L. H. BAILEY.

Cornell University.

PEARS FOR PROFIT.

The Anjou pear is very remarkable in one respect, and that is its regularity of bearing. Few, if any other varieties bear so continuously year after year, and always a large or at least a satisfactory crop. Of course it is necessary to keep the soil well fertilized when there is so constant a drain upon it. We have under observation two lots or plantations of these trees, the principal one being that of Ellwanger & Barry, the trees of which are worked on the quince stock. These trees, always well cared for in every respect, bear fine crops of handsome specimens which are carefully picked and stored in a fruit house until in proper condition to be placed on the market, when they are wrapped, each fruit separately, in manila paper, bearing the grower's trademark and carefully packed in boxes holding about fifty fruits each, and sent to the New York or Boston market. In these markets they appear so regularly each season in time for the Thanksgiving trade, and are now so well known, that their appearance is expected at the proper time as much so as the arrival of the first peaches or the first California oranges, and they always sell at satisfactory prices.

The other lot of this variety referred to consists of a number of standard trees in a city yard and which stand in the grass and receive neither fertilizers or cultivation, yet these trees regularly bear heavy crops. The fruits are not so large, though of fair size, nor so smooth as those from the dwarf trees, but they are a source of much gratification to the owner.

It is not improbable that these trees, left to themselves, as they are, may sooner become unprofitable than the others. Fruit trees always should be given a piece of ground by themselves, when this can be done, and be given good cultivation as much as any other crop. The question was asked the writer a short time since what variety or varieties of pears would be desirable to be planted here in Western New York for a market crop. It is a hard question to answer. The commission dealers here say that the Bartlett is always in demand, good stock bringing good prices, and there is never enough of it. Those who have had experience says there is more money in the Keiffer than any other, and that if properly handled and ripened it is a desirable fruit.

Mr. David K. Bell, an experienced pear

grower in this neighborhood, and who read a paper on "Pear Culture for Profit," at the Western New York Horticultural Society, in January of last year, expressed himself in regard to varieties in this manner:

"The following are to be preferred for a commercial orchard: As Standards, Clapps Favorite, Bartlett, Seckel, Sheldon, Bosc, Clairgeau, Anjou and Winter Nelis. On the quince, Howell, Superfin, Duchess and Anjou. I will add Keiffer to the former list although it is not a favorite of mine, the quality being not, in my experience, as good as the others I have mentioned."

All things considered it is probably best that the commercial pear grower should not confine himself to a single variety, although it is a fact that better prices can usually be obtained for a lot of one variety than a lot consisting of a number of different kinds in small quantities. It is then a practical question, what is the smallest number of trees of one variety that should be planted with a reasonable expectation that their produce should be enough to market to advantage; who can give this advice?

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YOUNG CONIFERS.

If evergreens are used or planted as single plants on lawns the arbor vitæas, retinisporas, junipers, cypress and yews ought to be protected in winter, not so much on account of the cold as against the rays of the winter sun, and especially while the plants are of small size. They will then not show any discoloration during the spring and early summer, but keep their color and, not only that, they will grow better, too. The best material for protection I have found yet, and always used with good results, consists of hemlock branches. Take some stakes and drive down around the plants, three or four are enough for a small plant. Leave them a little higher than the plant, and tie them together at the top, and go once around the stakes with strings about in the middle, then tie the hemlock branches to the sticks all around the evergreen, and it will make a good protection and is not objectionable to the eye. If properly done, this protection will stay on all winter against any kind of weather, and prevents the snow from breaking the twigs.

MAX BUEHLER.

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PANDANUS UTILIS and *P. veitchii*, or Screw Pines, are beautiful plants for house culture, rivaling palms. They will grow under the most adverse conditions, and are truly treasures.

THE BABY PRIMROSE.

On the first sight of *Primula Forbesii*, or Baby Primrose, the impression was not favorable. The plants were small, and so were the blossoms. The thought was, that those who liked miniature editions would undoubtedly be pleased with the Baby Primrose, but I never did like such little plants. In my hasty conclusion I did not make allowance for the fact that babies grow.

Now, after seeing some older, well-grown plants, I want to atone for the injustice and say that I think the Baby Primrose is charming. The leaves are clustered around the base of the plant; the blossoms are borne on slender stems and arranged in whorls around the stalk. The first blossoms open when the flower stem is but two or three inches high.

When the flowers in the first whorl have opened another whorl starts from the center of the first, each bearing at least ten or twelve blossoms. Soon another whorl starts, making three around the flower stem about two inches apart, and sometimes a fourth one appears. The flowering stem reaches a height of at least twelve inches.

The blossoms are small, not more than half an inch across, rosy-lilac in color, with a pale, yellow center. The calyx is covered with a delicate bloom or meal which sometimes extends down the flower stalk. The abundance of blossoms, their delicate coloring and daintiness, make the plant very attractive, and it is a constant bloomer, doing well with ordinary house culture, only, it should not be kept too warm. The great number of blossoms produced on even small plants is wonderful, this species of *Primula* surpassing all others in that respect, so far as our knowledge extends. It can be raised from seed, and is said to bloom in three weeks from time of sowing, but I would advise getting plants already started. F. B.



THE BABY PRIMROSE

SPIRAEA ANTONY WATERER.

The *Spiraea Antony Waterer* has proved a valuable introduction. The plants begin to bloom when only a few inches high and continue flowering all the summer and fall. Some specimens grown on sandy soil did not appear to have suffered during the severe drouth the past summer, but were covered with a mass of pretty crimson flowers. Being of low growth it is admirably adapted for a border plant. F. B.

WIRE FOR TRAINING LIMA BEANS.

For the past nine years I have raised Lima beans in my garden and for two years past have used wire in place of bean poles, and I wish to say that any one having once used wire will never go back to the old system. On the south side of an old building I have set some cedar posts, ten feet or more above ground, and about thirty feet from the building. On these posts have been spiked some 2 x 4 scantling; some heavy screw hooks are fastened to the building and to the hooks I fasten a heavy single wire (or double if preferred) and run the same to the 2 x 4 for an overhead wire. I have my hills all boxed in with six-inch strips of lumber, and drive a plug or short stake in the center of each hill, and then fasten to the stake wire, such as stove men use for wiring stove pipe, and fasten the same to the overhead wire. In a wind storm beans receive less punishment than when poles are used and no wire has ever broken a stem. The soil here is sandy, and by boxing the hills and using water freely I can force the growth and have early beans. King of the Garden Limas have matured here with me in Michigan as early as the 31st of July.

It occurred to me that the readers of the MAGAZINE might be interested in this matter, as a better way than the old style. The vertical wires that I have used for two season I expect to use again, and the cost is much less than poles and more satisfactory. I think my vines have grown in favorable weather not less than six inches in a single day. I send a kodak picture of a portion of my garden as above described. HENRY G. BIGELOW.

* *

SWEET PEAS PLANTED IN FALL.

For several years I have planted sweet peas early in the spring, but they have not done very well, drying up before blooming much owing, I suppose, to the soil which is a sandy loam.

Last year I planted them about December 1st just as it froze up for the winter, having to take off the frozen crust so as to plant them.

I planted two rows about six inches apart and about same depth from surface of ground

but covered with earth only about three inches, then put in leaves to fill the space left, and covered with a board to keep them there.

Early in the spring the board and leaves were removed and the peas found to be already showing. As they grew the earth was pulled into the trench until it was nearly full.

Wire netting was fastened between the rows and when the plants were about six inches high the ground was mulched between and close up to them, and the vines did splendidly.

They were in bloom several weeks before others planted in spring, and continued to furnish an abundance of flowers until mid-summer, when, owing to our very dry season,



LIMA BEANS
TRAINED TO UPRIGHT WIRES

I was not able to save them by watering. The varieties were Blanche Burpee and the Invincible Mixture, the latter of which is correctly named.

J. F. M.

Ashtabula, Ohio.

* *

SYMPHORICARPOS RACEMOSA.

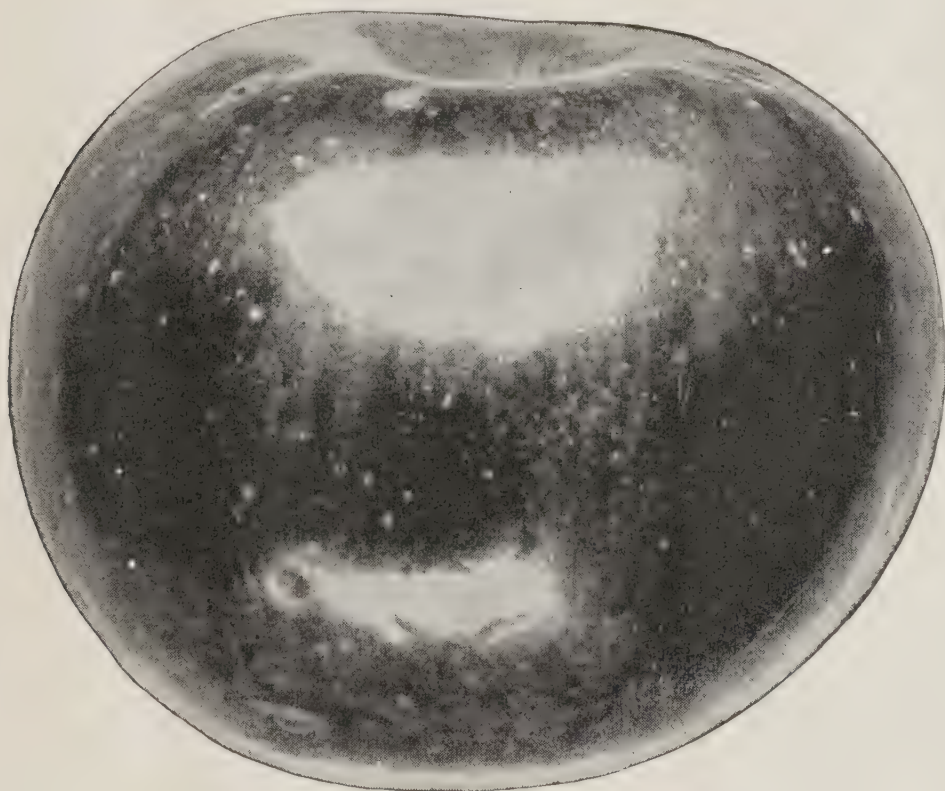
THE QUESTION is often asked: "What plant will grow under trees?" One shrub that will grow under such adverse conditions is *Symphoricarpos racemosa*, or Snow Berry. It will not only flourish under trees and in poor soil, but will also grow luxuriantly on hillsides or on the slopes of terraces. The blossoms are pink in color, very small and inconspicuous, but the berries are showy and a well grown bush with drooping branches is very ornamental. The snow-white berries will remain perfect nearly all winter.

F. B.

THE STERNS APPLE.

A very handsome seedling apple was exhibited last fall at the New York State Fair. The originator is Mr. C. L. Sterns of North Syracuse, N. Y.

In a letter to us Mr. Sterns says:—Some fifteen or sixteen years ago I planted some seeds of Spitzenburg, and this seedling looked so vigorous that I let it grow until it came into bearing; it is a very hardy tree and a vigorous grower. The fruit is much larger and flatter in shape than the Spitzenburg, and brighter in color, being generally overspread with red; it has a Spitzen-



THE STERNS APPLE

burg flavor, and I have kept some of the fruit until the following May. It has always taken a prize whenever exhibited. It has been shown eight times. The tree is now about eight inches through the trunk, and it bore three or four barrels this year. Last year it did not have so many. I picked out thirty apples each measuring twelve and a half inches around.

As the engraving shows, the apple is very regular in form, smooth, flattened, stem short, in a deep and somewhat russeted cavity. Basin shallow or of medium depth, smooth and regular, calyx small, closed. The exposed surface is almost or quite overspread with bright carmine and stripes and splashes of a shade darker in color, and interspersed with numerous small white dots in the center of each of which is a minute dark point or

spot. A handsome, showy fruit. Mr. Sterns says of the apples that "they ripened up this year much earlier than commonly, as all of my apples have, on account of the dry weather." The fruit is sub-acid, of mild flavor, and usually in its best condition from December to March.

* *

HEMEROCALLIS AURANTIACA MAJOR.

A contributor to the *Garden* says of this plant: It may be welcome news to not a few who have invested in this first-class perennial to know that it promises to be a good doer, if not quite so free as some other kinds in its

mode of increase. The slowness of growth is, I take it, rather a gain than otherwise, as the plant will in no sense be sufficiently prolific to become a weed for a long time to come. The rapid increase such as *H. Kwanso*, *H. fulva* and others is such that constant reduction of the clumps or replanting is a necessity in light soils. The heavier soils are capable of providing more food for the plant for a longer period, and in this way the flower does not suffer. The above plant, while possessing a good constitution, will be found quite at home in a fairly heavy soil, and perhaps not less so for the time being in lighter ones as well. Perhaps in growth this fine subject more nearly resembles *H. disticha* than any other, save, of course, the typical *H. aurantiaca*, of which so little unfortunately is known. Not in habit merely, but in the progress of its growth is it like this kind, and is therefore less abundantly tufted than all else, and quite distinct in its well-arching leaves.

* *

IT IS THE practice in some parts of the country to cultivate the roadsides, even planting crops close up to the beaten track. This may be all right for a year or so, to get the land free from weeds and seeded down to grass, but crops of potatoes and beans are not ornamental, and we confess that we would much rather ride along a road bordered by golden rod and asters, with fences and walls covered with trailing vines. Isn't there a happy medium?

F. B.

THE CHRISTMAS ROSE.

THE illustrations of Christmas Rose here presented are from a plant growing on the lawn of Mr. H. C. Phillips in this city.



THE CHRISTMAS ROSE

The flower stems spring directly from the root, the buds are delicately tinted with pink on the outside when they first appear, but the full-blown flowers are pure white, changing to a pale green tint as they grow older, and remaining a long time on the stem. The blossoms are from two to three inches across, with a large number of yellow stamens. The contrast of the pure white flowers with the dark evergreen leaves is very fine.

A well-established plant will throw up a great many flower stalks in succession, thus lengthening the season of flowering.

Ordinarily the Christmas Rose in this climate does not begin blossoming until winter, but this year the first flowers appeared early in October on the plant which was photographed for our illustration, and this morning, December 4th, buds and blossoms were

picked under the snow. The leaves and stems were stiff and brittle with frost, and the buds and blossoms glistened with the snow crystals, but the flowers which were cut and taken into the house came out fresh from their icy covering and will remain in good condition for a week or two if kept in a cool room. We have known of flowers and buds being picked fresh under several inches of snow in mid-winter, and a little sunshine at Christmas time is sure to reveal the dainty appearing, but really sturdy blossoms, smiling as if they enjoyed blooming in the winter. F. B.

* *

ASPARAGUS CULTURE.

Asparagus is one of those garden vegetables which are always of interest, both to the private grower and the market gardener. A brief statement of the principal points in its culture is appropriate at this season when many are planning for new plantings the coming spring. Not many years since the preparation of a piece of ground for raising asparagus, what with extra deep spading or trenching and filling the ground with a great amount of manure and bones, was considered a formidable undertaking, and consequently but small beds of the plant were cultivated; and the produce was considered as a luxury rather than a staple culinary vegetable. The more rational and simpler treatment that has since prevailed has caused the cultivation of this healthful vegetable to be greatly extended. Notwithstanding, but few private gardens of suburban residents, and innumerable fewer of farm or country dwellers, produce the crop, and the large markets demand a greater supply than they receive.

The different varieties in cultivation under different names are all of the same species, the differences in character being the result of peculiar soils and culture, and breeding and selection. With good culture one may be sure of good results with any of them. Plants are easily raised from seeds and those who so desire can produce their own plants by sowing the seeds early in spring in a piece of free, friable rich soil, sowing the seeds in drills about an inch and a half in depth and the rows fifteen or eighteen inches apart. Sow the seeds thinly, an inch or two apart, and to get strong plants about half of the plants should be thinned out, or so they will stand two or three inches apart. Hoe or cultivate and keep the ground clean through the season.

Good one year old plants of one's own raising are, on the whole, the most desirable for planting out. But if one buys plants, and especially if they have to be brought from a distance, experience has shown that strong two year plants are more reliable than younger ones.

A light soil will produce a crop earlier in the season than a heavy one, and the market grower should, if possible, avail himself of this fact. However, any good garden soil if properly cultivated will produce good asparagus. In the case of a market gardener intend-

somewhat less. The furrows should be opened to a depth of at least nine inches. In the bottom of the furrow the plants are to be set from three to four feet apart. It is best to take some pains in setting the plants, and the best cultivators draw up a little mound of soil with the hand and set the plant on it, spreading out the roots in all directions. Then draw on a little soil, enough to hold the plant in place. Afterwards a portion of the soil on each side of the row that was thrown out in making the furrow can be turned in by means of a one-horse plow from which the mold-



HELLEBORUS NIGER
OR CHRISTMAS ROSE

ing to plant a considerable area he should select ground that has been under clean cultivation and that is free from weeds and weed seeds. In the fall preceding planting the land can be plowed deep and left in a rough state during winter. Early in spring or as soon as the ground is in suitable condition to work, give a heavy dressing of old, well-rotted stable manure and plow it in. Harrow the surface until it is smooth and fine. Then with a plow open furrows through the plot of ground about four feet apart. On sandy soils the distance may be greater and on heavy lands

board has been removed. The plants are to be set so that the crown shall be from four to six inches below the level surface. In light soil a deeper covering is desirable than in heavier ground. Careful cultivation is to be given the plants and the ground kept entirely clean. In making small garden beds the work can be done with spade and hoe. In the garden it is a good plan to make narrow beds five feet wide, allowing a space of two feet between the beds for a walk; the rows to run lengthwise of these beds, two feet apart, three rows to a bed, the outer rows one foot from the

margin. As many of these narrow beds as may be needed can be made side by side. By preference they should run north and south, and in large plantations it is desirable that the rows should run north and south, so that the plants may receive the sun on each side; when running east and west they shade each other too much.

An asparagus plantation should be supplied annually with well-rotted stable manure or mineral fertilizers distributed in furrows run each side of a row. The application of stable manure, ground bone, bone meal, acid phosphate and muriate or sulphate of potash can be made to best advantage early in the spring before growth starts. Nitrate of soda is an excellent fertilizer for asparagus and it has been found best to apply it at three different times during the season, early or in March and again in May, and finally after the crop has been gathered. No shoots are to be cut for use or market until the spring of the second year, and then only the strongest spears are to be cut.

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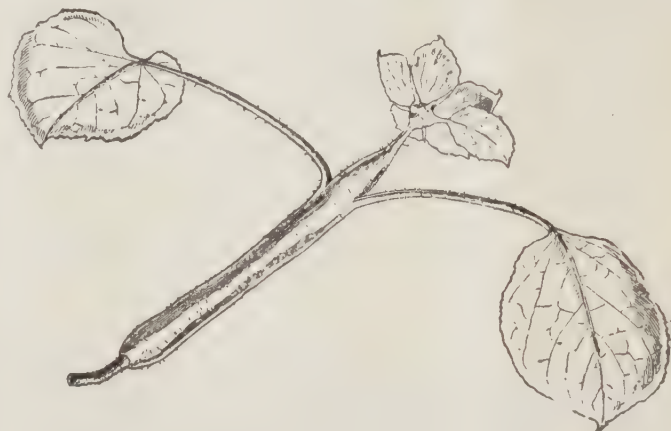
PHRYNIUM VARIEGATUM.

This plant which lately has come somewhat prominently before the public in this country for its decorative purposes, has its cultural treatment described by a correspondent of the *Gardeners' Chronicle*:

This plant when properly grown is a great addition to the store or greenhouse, and for decorating or exhibition purposes, the creamy white and green leaves having a very effective appearance. To obtain good results this plant should be treated as follows: The plants should be rested in an intermediate-house in the winter, but not allowed to get entirely dry at the roots, but affording water occasionally. In the early spring they should be brought into the store, and when they have started well the soil should be shaken from the roots, which should be divided, each piece being planted in a three-inch flower pot, using a compost of fibrous loam two parts, peat one part, leaf-mold and sand one part. Having potted the divisions, place them in the propagating case, applying shade till they are established, then stand them on the stage. The first leaves that are made in this size of pot will be green and may be left alone or cut down, when in the latter case the plants break from the bottom, the growth sent up will be well colored, and the habit dwarfer than when the first growths are left. The plants should then be potted into five-inch pots in the same kind of compost, using it in a rough state, with the addition of a small quantity of rotten manure, pressing the soil moderately firm, and placing them in the store. The plants must now be syringed two or three times a day, otherwise red-spider may spoil them. If an attack of red-spider is severe, the better plan is to sponge the foliage. A slight amount of shade during sunny weather is desirable, and on no account should the plants be allowed to get into a starved condition. If big plants are required, three or four may be placed in large pots or pans, and in a short time they will make a nice specimen for placing in the cool conservatory during the summer months.

STRUCTURE OF THE CUCUMBER.

The strange growth of cucumber shown on this page is a reduced form of an illustration published in the *Gardeners' Chronicle*. The



ABNORMAL GROWTH OF THE CUCUMBER

lesson that it teaches is in relation to the real character of the cucumber fruit. The following is the essential portion of the note that appears in the journal named in reference to the engraving: "It is now generally admitted that the outer portion of the fruit belongs to the axis; that it is, in fact, a dilatation or swelling of the flower-bearing branch surrounding and partly incorporated with the carpels. This view is confirmed by the curious specimen forwarded to us, by the courtesy of the Director at Kew, from Dr. Groen of Windsor. The two long-stalked leaves must necessarily arise from a branch. In the specimen before us the sepals have also assumed the form and consistence of leaves."

* *

THE LEOPARD PLANT.

The Leopard plant *Farfugium grande* is very closely allied to the coltsfoot *Tussilago farfara* and is of the same tribe (*Ligulifloræ*) of the great Composite family as the dandelion. I have the impression that it is found wild in the swamps of Austria,* but cannot verify it. If so it ought to have some hardiness, the roots at least.

E. S. G.

* *

AMPELOPSIS VEITCHII makes a very pretty trailing vine for window boxes and baskets. The leaves are smaller than when the vine is grown out of doors, and it is very delicate and pretty.

* This plant is a native of Japan. Exactly how hardy it is has not been precisely determined. The catalogues place it among tender plants which is probably correct for all cold climates.—ED.

BUD, BLOOM & SEED POD

*Nearer to the river's trembling edge
There grew broad flag flowers, purple, pranked with white,
And starry river-buds among the sedge,
And floating water lilies, broad and bright.*

—Shelley.

Plan for planting.

Sow maurandias now.

Sandy soil suits abutilons.

Is your garden well drained?

The unthrifty plant is a nuisance.

Raise verbenas from seeds, not slips.

Tree and flower catalogues are educators.

"Little Cheerful" stands for the cigar plant.

A lighted lamp may save plants from frost-bites.

The studious gardener is the successful gardener.

One plant you can hardly over water: A blooming hyacinth.

A paper night-cap may prevent a destructive "cold" to a plant some severe night.

Lettuce in frames needs plenty of air whenever the temperature is at the thawing point or above.

The study of insect life should be taken up as an adjunct by every progressive amateur gardener. It is a delightful study.

Blanching celery in the fumes of sulphur may do to talk about, but that's about all. A soil-blanch excels all others. It adds crispness not increased toughness.

If pot-plant growth is sluggish do not add more water to the soil where water is not needed. Remember that ailing plants require but little water; to apply more than is taken up or evaporated, is to make the soil less congenial to the plants, and that when their condition calls for encouragement rather than added drawbacks.

Double glazing of greenhouses, hotbed sash, etc., a craze of a few years ago, has now been weighed and found wanting. Theoretically it would seem to be all right and favorable to warmth. In practice it is disappointing, for the reason that two thicknesses of glass perceptibly retard the light and prevent the rapid melting of snow and frost. A worse feature than any other is that in time dust and dirt find their way between the glass and cut off the sun at a period when every ray of light is needed.

Bones for fertilizer. A letter from a reader

asks how bones can be utilized for plant food when one has no bone-mill to grind them. A good way is to crack them with a sledge hammer and then at garden-making time drop the pieces to the bottom of the successive trenches made in spading in land prepared for asparagus, fruit and long-rooted growths generally. Or if the plow is used scatter some pieces of bone in the bottom of the furrow. In this way the effect of the bones will not be very active but will continue for a long time.

In tree pruning it is a decided gain for the future tree value to paint all scars left by the saw above an inch across. With continued painting the scar will, if not more than four inches across, and providing the tree is thrifty, in time be covered with new bark, each year's layer of new growth adding to the preceding one. If the painting is neglected moisture and decay will set in, causing hollow-ness. New bark cannot close over a cavity resulting from an unattended scar, as it can over a smooth firm scar-surface when painted.

Currants for market. A neighbor of the writer's has for some time past grown about a ton of currants yearly for market and has found them more reliable than any other fruit and as profitable also. Of course, he had to combat worms every year, but with a little systematic treatment they were easily overcome with hellebore. This plantation was set in rows four by five feet apart, and cultivation is done in both directions, being absolutely clean. His soil is mainly a deep mellow clay loam, but a small patch begun in lighter soil seems to do equally well. We would, however, not recommend a very dry sand for raising this crop for market. The grower referred to does not believe in keeping up his currant plantation indefinitely; after it has continued eight or ten years he gives it up, having a young plantation coming on elsewhere, in the meantime. That is one secret of successful currant culture either for market or home use. If householders would profit by it in cultivating a table supply less

would be heard of currants running out. If bushes are too old, no matter how much manure or how much labor may be put on the crop, the fruit will lack in size and quality, compared with that from younger plants.

Flower missions. One of the sweet offices of flowers is that of giving comfort and cheer to the sick. It is indeed well worth the while to grow beautiful flowers, especially in the winter, and then send them to the sick. A large bouquet need not be given in order to gratify the receiver; in most cases a single truss of geraniums, for instance, with one or two leaves, or else a few carnations or a rosebud will give immeasurable delight. If more flowers can be sent let them be loose, so that they can be separately handled. A single spray may be held without tiring the patient where a good-sized bouquet made up into one bunch could not be held.

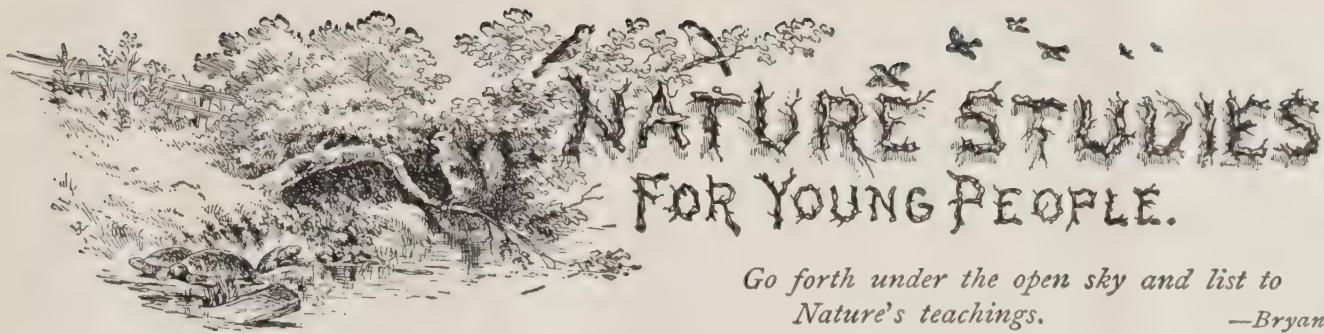
Liquid manure. One reason why liquid manure is so much advocated is its genuine efficacy. This is a good time to speak of the matter for the reason that the blooming season of pot hyacinths and other bulbs is at hand, and these are much benefited by frequent doses of liquid manure. A convenient form to apply it is to take a three-inch flower pot full of cow manure and mix it in a large garden can of water. Dilute this by the same amount of fresh water and apply twice a week. An ounce of nitrate of soda dissolved in four gallons of water is said to be a quick and good liquid stimulant for bulbs, but for this the writer cannot vouch by personal experience. In applying liquid to bulbs the time to begin is when the pots are filled with roots and flower spikes are visible.

Seeds of peaches, walnuts, acorns, and the like, should be in the soil now. If the planting was neglected in the fall, that treatment may be approximated by burying them at this time in moist earth packed close to the seeds, and after keeping the boxes in a cool cellar for another month put them out where frost will moderately penetrate the soil. In the spring they should be planted in rows three or four inches deep. Where individual trees of the oak or walnut are wanted an excellent way of obtaining them is to plant the seed where wanted. Keep the soil of the spot tilled, driving a stake to indicate the place. At first when the seedling comes up the growth may seem slow, but several chances to one you will have a large tree sooner than if you waited and set a tree eight or ten feet in height.

Leaf rolling. The writer recalls the frequently expressed wonder of those who meet with leaves rolled up to form the case of an insect as to how such leaf rolling could have been done. Try it with your fingers and it is a nice task; how then should a small insect prepare such a neatly formed case? It is a remarkable mechanical achievement hardly less so than the spreading of a spider's web. The growth of the leaf also enters as a factor. At first threads are spun by the insect and attached at the edges of the young tender leaf from side to side. These are drawn tight, passing over the body of the larva. More threads are added and the drawing up of all is increased, while leaf growth goes on, until at last the leaf is drawn in around the body and converted into a complete roll, the admiration of all beholders. With circular doors added at each end and cemented at the joints, it becomes a strong and complete home for the chrysalis.

Fads in flowers. Are we given to fads in flowers? Reports come from various floral centers of a decided decline in the enthusiasm for the chrysanthemum, which a few year's ago seemed to prevail at fever heat. While there may be some truth in this, yet we are glad for just this recent fad, if so it may be termed. The development in this grand flower within a few year's past has been amazing; if it required a season of enthusiasm, a revival, as religious people say, so much the better, inasmuch as great results were achieved. But we do not believe that a marked relapse in chrysanthemum's interest will follow after the recent gain of many points. Possibly there may be some falling off in the patronage of the flower by ultra-fashionable people, but about there it will stop. It is said that with the wane of chrysanthemum interest that of the violet is on the increase. Good! By all means let us have a violet revival; let violets be a fad, a raving fad for a period, if that will push that noble flower ahead as has occurred in the case of chrysanthemums; and let the violet fad be followed by others and thus keep things lively at a good gait. In the long run both the public and the art of floriculture will be the gainers. If we must say good bye to the chrysanthemum as a fad, we can at least rejoice that the catalogue of this glorious flower has made us so much richer in the standard varieties that now adorn our collections.

E. A. LONG.



PALACES.

"And there's never a leaf or a blade too mean
To be some happy creature's palace."

When we start out this month for a brisk walk, we want to have two things about us. I'm going to tell you what they are, for I am sure you will never guess. First, a pair of keen eyes; and second, a small box or basket. Funny things to go together, are they not?

You need the second to carry home what the first discovers; and be sure you do not bring it back empty. Besides, it is very cold work to carry a bunch of twigs, particularly when Jack Frost is here, there and everywhere, ready to nip at the shortest notice.

Of course all the larger boys and girls know what a cocoon is. The smaller ones may not know that it is the case made by the larva to contain the pupa.

I think I hear quite a chorus of children asking "What is pupa, what is larva?" To make it very clear, let us begin with

THE EGG.

This is the first stage in the life of all insects. Usually the egg is placed by the mother near some food, so that the young may be nourished till it can take care of itself. Then comes

THE LARVA.

This is the second stage. The larva is a worm or caterpillar which hatches from the egg. The larva's business is to eat and grow, till it becomes full size; then it stops, and settles down into

THE PUPA,

the third stage in the insect's life. The pupa is very quiet, wrapped up often in a case or cocoon spun by the larva all about itself. Although the pupa is seldom able to move about, great changes are going on within, and the fourth stage is

THE ADULT,

or perfect insect. Almost all adult insects have wings. Insects never grow after the adult stage, so do not think a small fly may grow to be a large one, for it cannot.

There is a very simple reason for this which

I will tell you. When the perfect insect comes forth the wings are full sized, and in such proportion to the size of the body that they can easily bear it in the air. The wings from their structure and material cannot increase in size, so that to serve their purpose, the body must not grow either.

The last, or adult stage is generally very short. The grown-up insects, that have taken so long a time to grow from the egg to the larva, from the larva to the pupa, and from the pupa to the perfect form, eat little food, and live only long enough to lay eggs, so that the endless chain may be kept moving.

To find cocoons you must not be content to say, "Oh, that is only a leaf," for the builders of these winter homes are so clever that they may often deceive you into thinking that a cozy silk-lined nest is but a dangling leaf. You must fairly touch it to make sure.

By watching these cocoons we can see the perfect insect come out. Although many insects make cocoons, the most beautiful are spun by large caterpillars. In them the pupæ sleep peacefully, safe and warm like babies in their cradles.

Some of these cocoons are very common; the *Promethea* and the *Cecropia*, and *Polyphe-mus*, belonging to the Giant Silk-worms, may be found on bushes by the roadside, in our city parks and in the orchard. Even in the most crowded city streets there is a chance to gather cocoons, if the *ailanthus* trees grow there. On them we may find the dangling silken hammock of the *ailanthus* moth. Take your cocoon carefully from the branch or twig and lay it in your box. When you get home put it in a room that is not too warm and wait patiently. During the winter at odd times you will hear a rat-tat-tat, and wonder where it comes from. It is the pupa letting you know that he is alive and lively.

Look carefully at the pictures of the cocoons so you may know them when you see them. Do not be surprised if from two cocoons of the *Promethea* moth, that look exactly alike, two different moths appear. One has light reddish

wings, and one has wings almost black and quite differently marked and shaped. Who knows this secret?

These moths belong to the order of insects called Lepidoptera, a long hard word I know, but who is going to find out first what it means?

We are also going to pick today a winter bouquet. Keep it in a vase, and look at it every week or two. It should look something like the one on this page.

Among the other snug warm homes in our bunch, you will see a cocoon hanging from a willow twig. It was made by the larva of the Polyphemus moth. The cocoon is woven of silk so fine and strong that it can be used in manufacture. It is usually encased in a leaf, yet this simple, orderly-looking cocoon may be a real surprise-box, for till the spring we cannot tell what will come out of it. Listen why.

The caterpillar which becomes the pupa of this moth is very gaily dressed. As it walks about on the leaves of forest or fruit trees it is very showy. A good three inches long, pale green in color, and striped with bright yellow lines and orange dots, no wonder it is easily seen. It has one other distinguishing mark, which really makes it a member of our club; for on the last section of its body it carries a large brown V!

Among the trees where the caterpillar lives, you may chance to see buzzing about, a fly, with a yellow body. It is called Ophion macrurum. This fly thinks she would like to lay an egg, and casting about for some nice safe place to put it, spies our friend the cater-

pillar. "Here" she cries "is a good fat caterpillar. Pretty soon she will spin her nest, and my little egg will be safe and warm." Down darts Ophion, and lays an egg in caterpillar's back. Poor caterpillar! She does not know what has happened to her, but we may imagine that she has a "misery in her back!"

She bustles about and finds a twig to suit her, and says to herself, "The winter must be coming on, so I'll get at my spinning," and spin she does till both herself and Ophion's

egg are in a soft, warm, yellow silk home. But strange things take place inside the home. Ophion's egg hatches into a lively worm that eats up the caterpillar which has sheltered it, and not finding its home to its fancy, spins another, completely filling the outer one made by our green caterpillar. Here it snuggles all winter long and gnaws its way out in the spring, a waspish looking fly, with a yellow body, just like its mamma.

There is another Ichneumon fly — for Ophion belongs to this family too, — smaller than Ophion, that hunts out the caterpillar

of the Polyphemus moth also. This second fly, though small, lays sometimes as many as thirty-five eggs upon one poor caterpillar. So don't be surprised if, instead of a moth, you happen to find one large yellow-bodied insect or a perfect swarm of red and black striped, wicked looking flies, coming from one cocoon.

We call this cocoon the choicest treasure in our bunch. Beside it are some stems of golden-rod, having on them either one or two round balls. Then there are those strange looking cones, picked from the willow, and several different oak-galls. Get enough of each kind



A WINTER BOUQUET



CECROPIA COCOON.

so that when you get home you may cut one right through the centre, with a sharp knife. See how carefully each little fellow has been tucked in by his mother. She has put him, too, where he can get plenty to eat till he grows up, gets out and can take care of himself in the spring.

THE HOTEL.

We shall find the Pine-cone willow gall a very strange affair. In fact it is a hotel. The little fellow it was built for lives of course in the best room. But he has "guests," and they all live very comfortably together, as there is room enough and food enough for all. Can any one tell me the name of the host, of his guests, and how they got there?

You see on one twig a dark, dried-up, spongy-looking mass. If you could have seen it in its freshness, you would have wondered at its beauty. It was a lovely, shiny ball, pale green and glistening, and dotted with pink points. A little fly caused it to grow, to furnish a home and food for her children. She is called a gall-fly, and should you see her in a collection she would be labeled *Cynips seminator*. We can call her by her common name of "wool sower."

She chooses a fresh green twig, and in a tiny hole she makes, puts her eggs. No one knows whether at the same time she puts in a drop of poison too, but from some cause or other the twig begins to swell and soon the eggs are covered by the glistening ball, made by the tree, and furnishing food as well as protection. If you open one of these sponges you will see many seed-like little cases. In these the little fly was reared, and out of the opening, as tiny as a pin-hole, it flew, to find another twig and start its sponge.

* *

The prettiest fly of all, with banded wings, will come from the golden-rod ball. It seems impossible that a round white worm should turn into so delicate a thing.

These are only a few of the secrets which are revealed to us, when the wind and frost have torn away the leaves.

Who has found any others?

HOT SHOT.



Do any of you keep note-books? Everybody says "No." I had hoped to hear a "Yes" or two.



Begin now, no time is better than the bright New Year.

Write down in your books what you find in your walks, and the dates.

Note carefully when you hear the first birds in the spring; what chance visitors you spy during these cold winter days.

Keep your note-books and compare them year by year. You will find that the return of the birds varies but a few days; that the wild flowers come to schedule time, and that nature is very seldom behind time, a lesson to us.

Turning over the leaves of my own note-book, I find this entry for December 6th, 1899:

"Picked in the garden a white rose, some petunias and sweet alyssum;" quite a summer posy for the first week in winter! Since then the snow has fallen and going to the edge of the woods, I stood perfectly still watching a



OPHION.

black and white creeper getting his lunch up and down the trunk of a tree. I was dressed in dark clothes, the falling snow had powdered them, and suddenly a little brown bird flew

down and lit for a moment on my coat sleeve. He stopped just for a second and discovered that he had mistaken me for a tree trunk and flew away so quickly that I hardly had time to make up my mind that he was a winter chippy.

* *

Do not be discouraged if on your first search for cocoons you do not find many. Try, try again. A little boy of six found, a few days ago, the largest *Cecropia* cocoon I ever saw; you can guess how pleased he was. Our western volunteers should find some varieties which we do not have in the east. Would it not be nice to exchange some specimens?

* *

Besides these large cocoons of the giant silk worms, there are many tiny ones of other moths.

On elm trees, particularly the young ones, you will often find a leaf curled down over a twig. Underneath there is a snug little cocoon. Watch for the pretty moth that comes out. Do you know his name?

Be sure to note the January thaw. Look under the eaves of the barn, or about the straw stacks or hay ricks, you may be wonderfully surprised to see a lovely butterfly trying its wings. They come from the fall-brood of caterpillars, and we marvel how such fragile things can stand the winter cold.

We may see a Red Admiral, *Vanessa atalanta*, or the Mourning Cloak, *Euvanessa antiopa*. One of these waifs and strays may live several weeks in the house in a warm sunny window. Sugar and water is said to be food to their taste, but I never succeeded in getting one to eat.

During this same January thaw scrape the snow away from the foot of oak and maple trees. Here are more treasures to enrich our store. How like bronze they look, these quaint mummies, rolled in all that is left of the caterpillar fur of their larva, and in the bunch you may generally find the caterpillar's head. I have before me a handful of them, which were lying under the snow at the foot of a maple till I picked them up. They are about an inch long, shining brown, the upper part with what looks like long ears pressed close to the sides. The bottom is ringed and on the very tip end is a little point or spike. Sometimes you find them standing on end with this spike thrust into the ground, but they are generally lying patiently on one side waiting for spring.

These chrysalids (as the pupa is called when not enclosed in a cocoon) are of the *Dryocampa* moths. The common name is oak moth and maple moth. The maple moth

is very pretty; it has rose colored bands upon its wings, and is often called on this account rosy-moth.

* *

"Happy new year" to the volunteers; a year made bright by gaining for our own many secrets which before were hid; by making many friends among the humblest creatures which cross our path, and by "passing on" to others the pleasures which we find ourselves.

* *

VICK'S VOLUNTEERS.

As we announced in November that we should this month publish the names of the first ten volunteers, we now do so, only there are eleven instead of ten. Our Albert when he learned of the scheme offered himself as a volunteer, so he had a little the start of others. Since his father was the general he seemed to be quite anxious to enter the service.

NO.	DATE.	NAME.	ADDRESS.
1	Nov. 7	ALBERT F. W. VICK	Rochester, N. Y.
2	Nov. 16	V. F. R. ISACKSON	Buck st., Newburyport, Mass.
3	Nov. 16	ERNEST S. REYNOLDS	60 Evergreen st. Providence, R. I.
4	Nov. 16	OPAL WELCH	Ada, Ohio.
5	Nov. 18	CARRIE SWEARINGEN	715 E. 7th St., Pueblo, Colo.
6	Nov. 20	ANNIE S. RODGERS	Red Lake Falls, Minn.
7	Nov. 20	JOHN L. RODGERS	" " " "
8	Nov. 20	MARJORIE RODGERS	" " " "
9	Nov. 20	EDWARD W. DOLE	Beatrice, Nebr.
10	Nov. 22	FANNIE FLORENCE TUTTLE	Mankato, Minn.
11	Nov. 22	J. WARREN LANE	Riverton, N. J.

The manufacturers of the buttons have promised to send them very soon, and as quick as they are received they will be mailed the Volunteers.

Our object is to sharpen the eyes, and foster a love for the study and protection of our birds, our wild flowers, and all those gifts which Mother Earth lavishes upon us if we know where to seek them.

We have organized a Club among our young readers to assist them in this Nature Study. For particulars see VICK'S VOLUNTEERS in back part of the MAGAZINE.



LETTER BOX.

Let me have audience for a word or two.
—Shakespeare.

Plant for Name.—Trumpet Creeper.—Seedling *Aquilegia*.

1.—Will you kindly give a name for the enclosed lily? I call the color lavender. My plant had one hundred stalks, with from five to ten blooms to a stalk. It stands on the north side of the house and has not been moved for years. Mrs. J. J. M. asks how to raise trumpet creeper. Well, trumpet creeper is an imposing vine, but we regard it as a nuisance. We have been trying for ten years to eradicate it from the place. It came up in the vegetable garden, berry patch, lawn—everywhere, and still comes as lusty and smiling as ever. Better try a wistaria.

2.—I have a box of young Columbine, *Aquilegia*, plants from seeds planted in July, perhaps five inches high. Will they live over winter in the ground, or is it better to leave in the cellar?
L. J. E.

Griggsville, Ill.

1.—The liliaceous plant is the Blue Funkia, *Funkia ovata*.

2.—Cover some leaves over the *aquilegia* seedlings and they will probably winter safely.

* *

Azalea.

1.—What is the reason that the buds of the azalea fall off, and how to prevent it?

2.—Can the azalea stand the sun, or must it be placed in shady places with plenty of light?

3.—Which is the best method to force the azalea into full bloom?
J. F. Z.

New Bremen, Ohio.

1.—Plant is kept too dry, in too warm a temperature and air too dry. It should be in a room where the temperature does not go above 60° and where the air is moist by the evaporation of water. When it is watered the ball of soil should be soaked through, then leave it until the soil begins to show that it is dry.

2.—The treatment otherwise being right the plant may be in sunshine or in shade.

3.—There should be no attempt to force the plant by a high temperature. If the plant is properly cared for during summer, autumn and early winter it will bloom at its proper season.

* *

Moonvine, Asparagus, Deutzia.

1.—I bought a moonvine in the spring; planted it according to your directions and in a sunny situation; it did not even sprout; it is the third one I have tried. Can you tell why I have failed?

2.—What is the best time to put out asparagus roots, spring or fall?

3.—I also have a deutzia that I bought from your father many years ago. It is a strong, healthy bush, but it never blooms. Can you tell me why?

Butler, Pa.

MRS. W. A. L.

1.—There is no reason why a healthy plant of moonvine should not grow if planted in the

spring. The plants were mismanaged in some way, either before or after you received them.

2.—An asparagus bed can be made either in fall—October or November—or in spring—April or May.

3.—No, the cause of its non-blooming cannot be positively explained—probably a bud idiosyncrasy—dating back, no doubt, to the time of its propagation. The proper treatment is to dig it up and throw it away, making room for something better.

* *

Dwelling near Water.—Asparagus Sprengeri.

1.—My better half says do ask an answer in December number of that splendid magazine, "if a home residence near a lake, pond or river is as healthy as a location far away from there."

2.—How shall I treat my *Asparagus Sprengeri*?

Natick, Mass.

MARY A. H.

1.—A residence near water, if the water is pure and has some movement—not stagnant—is far more healthful for healthy people than far away from a body of water. A body of pure water is not of itself unhealthful, though possibly there may be coincident conditions which may render the surrounding locality insalubrious. In Western New York people commence to assemble themselves in May and June for a summer residence along the shores of the lakes. Near this city, on the shore of Lake Ontario, a summer hospital for sick infants is maintained, so that any very sick child may be taken there and cared for. The wisdom of this provision is manifested every summer, and the recovery of children from acute diseases after a short residence at the lakeside has so often been effected that it is the first thought of a parent with a child that is very ill to hurry with it to the water side. The institution has become very popular. We might go on at almost any length in detailing the account of the spring and summer patronage of the water side, but probably what was said in the October issue in regard to water-sites for summer residences will be questioned by few persons of experience.

2.—The asparagus in winter should not be kept too warm; 60° is enough and it should be regularly supplied with water, the plant having good drainage. Every day syringe the foliage. This can be done by taking the plant to the kitchen sink, using a sprayer or syringe.

EDITOR'S NOTES

Electro-Horticulture.

This is the title of a brief hand-book written by George S. Hull, M. D., Sc. D., Pasadena, California. In this little volume Dr. Hull reviews the experimental work that has been done in the application of electricity in various ways on the farm and in the garden. In a short and popular way he notices the application of electricity to plants as affecting their growth, also the effect of electric light upon vegetation, and finally shows the possibility of electricity as a motive power for farm and garden and for other purposes. The publication is intended to be interesting and suggestive rather than useful.

* *

Western New York Horticultural Society.

The secretary of this society, Mr. John Hall, says: Our program for the 45th annual meeting will be more practical than ever. It is proposed to have fewer papers and still more discussions than in previous years. Prospects good for a large meeting. Date, Jan. 24 and 25, Common Council Chamber. Railroad arrangements and reduced fares as usual. Papers will be short, crisp, practical. Prof. M. V. Slingerland will have lantern slides in connection with talk on insect pests in 1899. We shall also have slides showing mode of pruning pear trees from time of planting to bearing.

* *

The communication in this issue on the *Mamillaria* cacti of Wyoming will be of especial interest to many persons. The size of these plants is not mentioned by our correspondent. From the descriptions in Britton and Brown's *Flora* it appears that the heads or stems of *M. Missouriensis* are about two inches in diameter and its flowers about an inch in diameter when expanded. The stems of *M. vivipara* are somewhat larger, or from two and one-fourth to two and one-half inches in diameter, while the flowers are nearly two inches in length. According to the new nomenclature, which is employed by the authors above referred to, the last named species is called *Cactus viviparus*, and the common name is given as Purple Cactus; the yellow-flowered species is called *Cactus Missouriensis*, and the common name is Missouri or Nipple Cactus.

* *

The New Egg Farm.

This is a book on the management of poultry on a large scale for commercial purposes. A practical manual and reliable hand-book upon producing eggs and poultry for market as a profitable business enterprise, either by itself or in connection with other branches of agriculture, by H. H. Stoddard, for many years editor of the *Poultry World* and *American Poultry Yard*, author of "An Egg Farm," etc., etc. It is an entirely new work embodying all that is most valuable from the author's first book, to which are added the results of a lifetime of work, invention, improvement and observation in the vast and growing commercial poultry industry in all sections of the country. It contains nearly 150 illustrations. Published by the Orange Judd Company, New York. Price postpaid, \$1.00. The author is a practical poultryman. He compares the best locations for the business; tells how to build the houses for layers, breeders, sitters or chicks, adapted to the colony system, the yard system and other methods; how to feed and manage, how to breed and select, choice of breeds, management for mild or severe climates; essentials of duck

raising, and how to insure growth and fertility. Various styles of incubators and brooders are described and their merits compared; directions for an incubator cellar, best methods of heating and ventilating brooders. This work contains the writer's expert experience, and the remarkable new labor-saving devices render it an epoch-making book.

* *

School of Horticulture.

If the number of applications warrant the undertaking, a short school of horticulture will be held at the R. I. College, Kingston, R. I., beginning Feb. 26, 1900, and continuing two weeks. The plan will be to crowd all the clear-cut practical instruction possible into this brief space of time. To that end the aid of practical men who have made a success in different lines of horticulture will be elicited. Special effort will also be made to familiarize students with horticultural literature in order that they may know where to look for information when needed. The work will include a study of soils, fertilizers, plant life, fruits, vegetables, ornamental gardening, propagation, spraying, etc. Especial attention will be given to bush-fruits. Expenses moderate. For further information, address Fred W. Card, Professor of Horticulture, Kingston, R. I.

* *

The Florists' Manual.

This work, which had been announced a year or more in advance, made its appearance some week's since. The author, William Scott, is a first-class florist of Buffalo, and in addition to being a gardener of high order, he is also a ready and accurate writer. The book is written for the working gardener, and Mr. Scott's reputation is so well secured that he will find among his gardening friends a host of genuine admirers. As a writer on practical gardening subjects he is a recognized authority. By his numerous writings for several years in the *American Florist* and the *Florist's Review* he has established a most enviable reputation. This book, therefore, written especially as a "Reference Book" for gardeners will find immediate acceptance. In looking it over it appears that he has treated 156 species of plants or their garden varieties. While under the titles "Annuals," "Aquatics," "Bedding Plants," "Bulbs," "Decorative Plants," "Easter Plants," "Ferns," "Grasses," "Hardy Perennial Plants," "Hardy Shrubs" and "Hedge Plants," he covers with general instructions a still greater number. The other subjects brought to the attention of the reader are those of the greatest importance to the gardener, and are "Bottom Heat," "Cold-frame," "Decorations," "Decorative Material," "Drainage," "Fertilizers and Manures," "Fungicides and Insecticides," "Glazing," "Greenhouse Building," "Heating," "Hot-beds," "Lawns." Mr. Scott has long been an employer and knows what information young gardeners, or those with little experience need, and he has his whole subject so perfectly at command that he can give the most desirable and essential information in the clearest language and with satisfactory brevity. The book is a distinct and important gain to the practical garden literature of this country, and it should be in the hands of every gardener, and everyone else engaged or interested in ornamental horticulture. The price of the book is \$5.00 which seems somewhat high, but for useful information it is worth every cent of it. In fact, if it were not for a thin purse making its purchase impracticable, anyone wanting the information afforded by this book could afford to pay even more. Although the book is called a "Manual" it is in the form of a thin quarto and, so, not so handy to have about for constant reference as if of octavo form. However, it is the milk in the cocoanut and not the shell that will command the attention of the users of this book. It is issued by the Florist's Publishing Company, Chicago, Illinois.

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I like the magazine very much, as it is a help in the garden and on the farm.
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To-day I received my copy of the December issue of your magazine, and I must say that it is a beauty.
C. W.
South Granley, N. Y.

Enclosed find my subscription to the magazine, as I could not very well do without it. The new dress is very nice and I think the colored plates are lovely.
MRS. J. A. C.
Rockford, Ill.

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H. S.
Salt Lake City, Utah.

Vick's for December is just received. I must tell you right off of the great pleasure I experienced on opening the magazine and having the Queenly Ladies' Slipper, "big as life" and seemingly almost alive, greet my delighted eyes. How vividly it recalled the delightful experiences of the day when I first found this beautiful plant in a cool bog in Ohio. I must thank you for this beautiful illustration, and I assure you it will be more highly appreciated by plant lovers the world over than you can know. VICK'S MAGAZINE is doing a noble work. May it prosper.
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Midland College, Atchison, Kansas.

One of our readers, a gentleman of experience, writes: Don't hesitate to raise the price of VICK'S MAGAZINE if it is necessary in order to maintain the high standard you have set. It is worth \$1.50 to \$2.00 now, but do keep the price down to 50 cents if you can. VICK'S MAGAZINE is now the only horticultural magazine which comes within the reach of all, and it ought to have the largest circulation. It has no narrow circle of contributors but seems to be truly representative of the people and of all classes. I think it has its roots deep in the hearts of the people.

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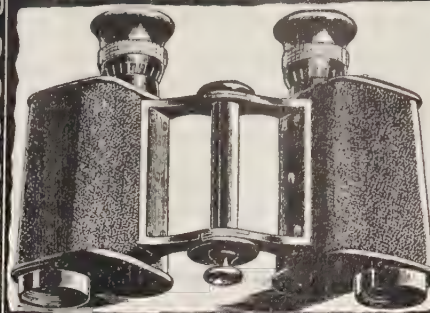
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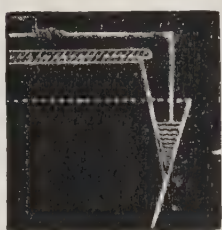
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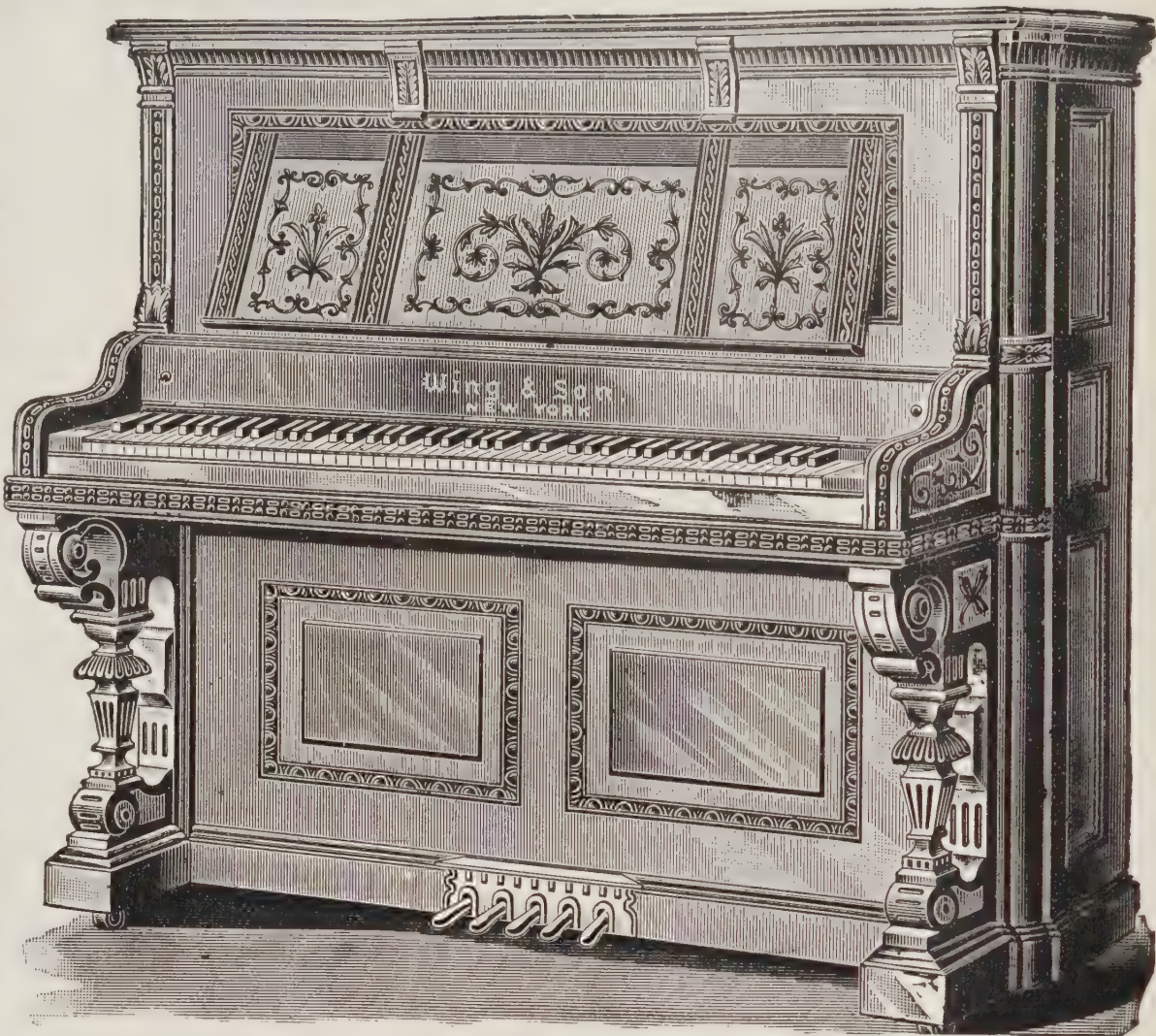
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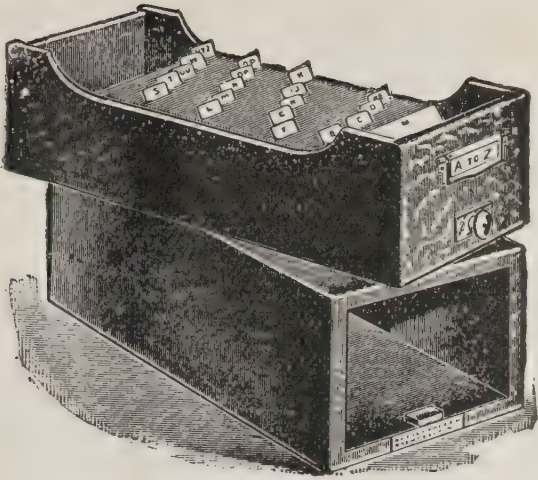
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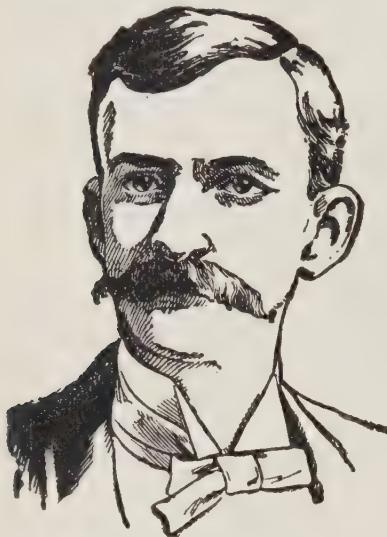
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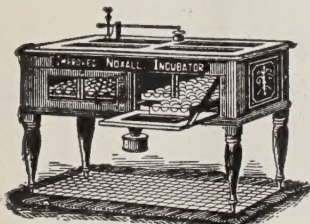
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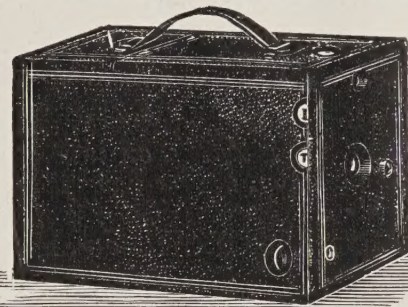
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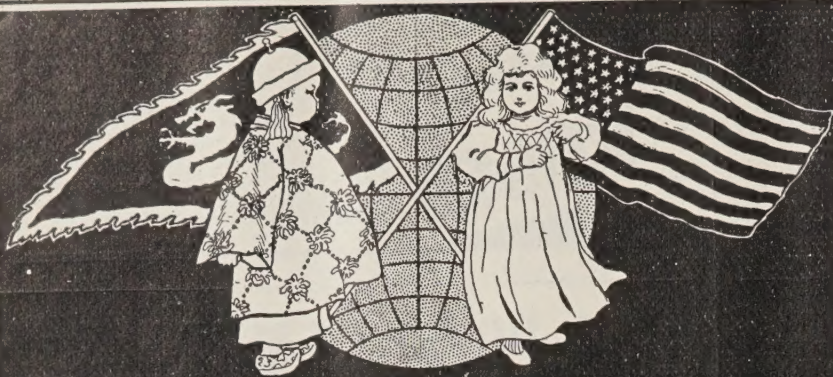
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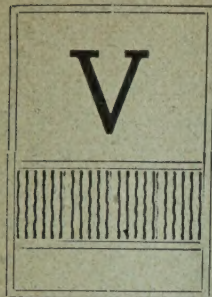
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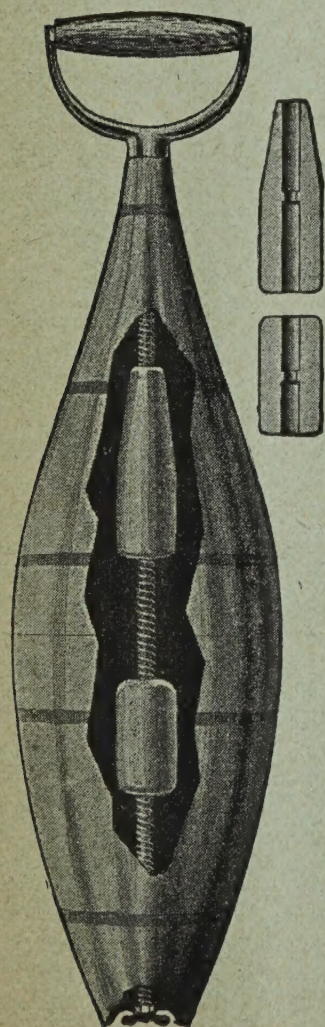
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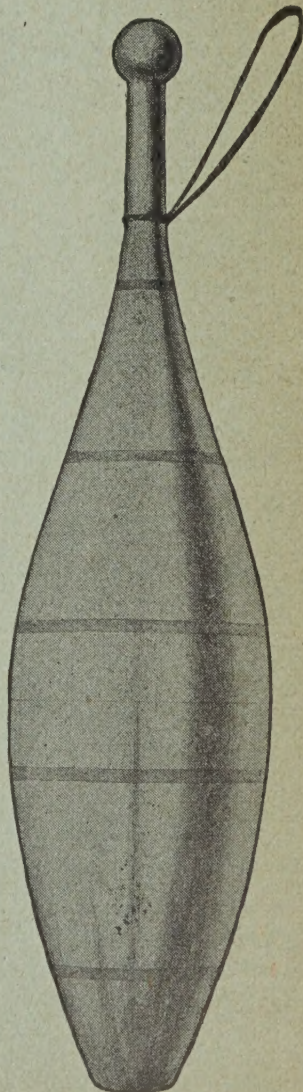
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